Annex E
(normative)

ORM specifications

E.1 Introduction

This annex presents the specification of the standardized ORMs and associated RTs. If two or more object-fixed ORMs for the same object are specified then one of the ORMs is designated as the reference ORM for that object. Table E.1 in E.2.1 lists the reference ORMs specified in this International Standard, ordered alphabetically by their label. ORM specifications are listed in tables in E.2.2 according to object categories (abstract, Earth, other planet, satellites, and Sun) and binding type (object-fixed or dynamic). Table E.2 provides a directory of these tables. Parameter values in the tables are specified by value or by reference. Parameters specified by reference use the terminology in the cited references. Those terms are enclosed in brackets ({ }). Referenced values in length units other than metres are converted to metres to specify the corresponding RT parameter. Angular values are generally expressed in the units of radian. However, to avoid a loss of precision, some angular values are expressed in the units of arc second (″) or arc degree (°), as indicated.

E.2 ORMs

E.2.1 Reference ORMs

Table E.1 — Reference ORM directory

Object name	Type	Reference ORM label
2D modelling space	Abstract	ABSTRACT_2D
3D modelling space	Abstract	ABSTRACT_3D
Adrastea	Satellite	ADRASTEA_2000
Amalthea	Satellite	AMALTHEA_2000
Ariel	Satellite	ARIEL_1988
Atlas	Satellite	ATLAS_1988
Belinda	Satellite	BELINDA_1988
Bianca	Satellite	BIANCA_1988
Callisto	Satellite	CALLISTO_2000
Calypso	Satellite	CALYPSO_1988
Charon	Satellite	CHARON_1991
Cordelia	Satellite	CORDELIA_1988

Object name	Type	Reference ORM label
Cressida	Satellite	CRESSIDA_1988
Deimos	Satellite	DEIMOS_1988
Desdemona	Satellite	DESDEMONA_1988
Despina	Satellite	DESPINA_1991
Dione	Satellite	DIONE_1982
Earth	Earth	WGS_1984
Enceladus	Satellite	ENCELADUS_1994
Epimetheus	Satellite	EPIMETHEUS_1988
Eros (asteroid 433)	Planet	EROS_2000
Europa	Satellite	EUROPA_2000
Galatea	Satellite	GALATEA_1991
Ganymede	Satellite	GANYMEDE_2000
Gaspra (asteroid 951)	Planet	GASPRA_1991
Helene	Satellite	HELENE_1992
Iapetus	Satellite	IAPETUS_1988
Ida (asteroid 243)	Planet	IDA_1991
Io	Satellite	IO_2000
Janus	Satellite	JANUS_1988
Juliet	Satellite	JULIET_1988
Jupiter	Planet	JUPITER_1988
Larissa	Satellite	LARISSA_1991
Mars	Planet	MARS_2000
Mercury	Planet	MERCURY_1988
Metis	Satellite	METIS_2000
Mimas	Satellite	MIMAS_1994
Miranda	Satellite	MIRANDA_1988
Moon	Satellite	MOON_1991

Object name	Type	Reference ORM label
Naiad	Satellite	NAIAD_1991
Neptune	Planet	NEPTUNE_1991
Oberon	Satellite	OBERON_1988
Ophelia	Satellite	OPHELIA_1988
Pan	Satellite	PAN_1991
Pandora	Satellite	PANDORA_1988
Phobos	Satellite	PHOBOS_1988
Phoebe	Satellite	PHOEBE_1988
Pluto	Planet	PLUTO_1994
Portia	Satellite	PORTIA_1988
Prometheus	Satellite	PROMETHEUS_1988
Proteus	Satellite	PROTEUS_1991
Puck	Satellite	PUCK_1988
Rhea	Satellite	RHEA_1988
Rosalind	Satellite	ROSALIND_1988
Saturn	Planet	SATURN_1988
Sun	Sun	SUN_1992
Telesto	Satellite	TELESTO_1988
Tethys	Satellite	TETHYS_1991
Thalassa	Satellite	THALASSA_1991
Thebe	Satellite	THEBE_2000
Titan	Satellite	TITAN_1982
Titania	Satellite	TITANIA_1988
Triton	Satellite	TRITON_1991
Umbriel	Satellite	UMBRIEL_1988
Uranus	Planet	URANUS_1988
Venus	Planet	VENUS_1991

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E.2.2 Standardized ORMs

The elements of an ORM specification are defined in Table 7.10. Table E.2 is a directory of standardized ORMs organized by category of ORM and type of object. The ORM entries in each table are ordered alphabetically by their label. The deprecated ORMs are specified in Annex J. ORM specifications may include one or more RT specifications. The RT specifications associated with an ORM are specified in a corresponding table as shown in Table E.2.

Table E.2 — ORM specification directory

ORM and RT specification tables	ORM table	RT table
Abstract ORM specifications	Table E.3	Table E.4
Object-fixed ERM specifications	Table E.5	Table E.6
Dynamic ERM specifications	Table E.7	n/a
Time-fixed instances of dynamic ERM specifications	Table E.8	Table E.9
Object-fixed planet (non-Earth) ORM specifications	Table E.10	Table E.11
Dynamic planet (non-Earth) ORM specifications	Table E.12	n/a
Time-fixed instances of dynamic planet (non-Earth) ORM specifications	Table E.13	Table E.14
Object-fixed satellite ORM specifications	Table E.15	Table E.16
Time-fixed instances of dynamic satellite ORM specifications	Table E.17	Table E.18
Stellar ORM specifications	Table E.19	Table E.20
Dynamic stellar ORM specifications	Table E.21	n/a
Time-fixed instances of dynamic stellar ORM specifications	Table E.22	Table E.23

Table E.3 — Abstract ORM specifications

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
ABSTRACT_2D	1	2D modelling space	This is the reference ORM for abstract 2D object-space.	none	Universal	BI_AXIS_ORIGIN_2D	n/a	none
ABSTRACT_3D	2	3D modelling space	This is the reference ORM for abstract 3D object-space.	none	Universal	TRI_PLANE	n/a	none

Table E.4 — Abstract ORM reference transformation specifications

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
ABSTRACT_2D	ABSTRACT_2D_IDENTITY	1	Universal	n/a (reference ORM)	n/a	none
ABSTRACT_3D	ABSTRACT_3D_IDENTITY	2	Universal	n/a (reference ORM)	n/a	none

Table E.5 — Object-fixed ERM specifications

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
ADINDAN_1991	3	Adindan	WGS_1984	1991	Burkina Faso, Cameroon, Ethiopia, Mali, Senegal, and Sudan	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "ADI"]
AFGOOYE_1987	5	Afgooye (Somalia)	WGS_1984	1987	Somalia	OBLATE_ELLIPSOID	KRASSOVSKY-_1940	[83502T, App. B.2, "AFG"]
AIN_EL_ABD_1970	6	Ain el Abd	WGS_1984	1970	Bahrain and Saudi Arabia	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.3, "AIN"]
AMERICAN_SAMOA-_1962	8	American Samoa	WGS_1984	1962	American Samoa Islands	OBLATE_ELLIPSOID	CLARKE_1866	[83502T, App. B.10, "AMA"]
ANNA_1_1965	9	Anna 1 (astronomic)	WGS_1984	1965	Cocos Islands	OBLATE_ELLIPSOID	AUSTRALIAN-_NATIONAL_1966	[83502T, App. B.9, "ANO"]
ANTIGUA_1943	10	Antigua (astronomic)	WGS_1984	1943	Antigua and Leeward Islands	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.8, "AIA"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
ARC_1950	11	Arc	WGS_1984	1950	Botswana, Burundi, Lesotho, Malawi, Swaziland, Zaire, Zambia, and Zimbabwe	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "ARF"]
ARC_1960	12	Arc	WGS_1984	1960	Kenya and Tanzania	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "ARS"]
ASCENSION_1958	14	Ascension	WGS_1984	1958	Ascension Island	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.8, "ASC"]
AUSTRALIAN_GEOD-_1966	16	Australian Geodetic	WGS_1984	1966	Australia and Tasmania	OBLATE_ELLIPSOID	AUSTRALIAN-_NATIONAL_1966	[83502T, App. B.4, "AUA"]
AUSTRALIAN_GEOD-_1984	17	Australian Geodetic	WGS_1984	1984	Australia and Tasmania	OBLATE_ELLIPSOID	AUSTRALIAN-_NATIONAL_1966	[83502T, App. B.4, "AUG"]
AYABELLE-_LIGHTHOUSE_1991	18	Ayabelle Lighthouse (Djibouti)	WGS_1984	1991	Djibouti	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "PHA"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
BEACON_E_1945	19	Beacon E (Iwo-jima; astronomic)	WGS_1984	1945	Iwo Jima Island	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "ATF"]
BELLEVUE_IGN_1987	21	Bellevue (IGN)	WGS_1984	1987	Efate and Erromango Islands (Vanuatu)	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "IBE"]
BERMUDA_1957	22	Bermuda	WGS_1984	1957	Bermuda	OBLATE_ELLIPSOID	CLARKE_1866	[83502T, App. B.8, "BER"]
BISSAU_1991	24	Bissau	WGS_1984	1991	Guinea-Bissau	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.2, "BID"]
BOGOTA_OBS_1987	25	Bogota Observatory	WGS_1984	1987	Colombia	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.7, "BOO"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
BOGOTA_OBS_1987_PM-_BOGOTA	26	Bogota Observatory (with the Prime Meridian at Bogota)	WGS_1984	1987 The x-positive xz-half-plane contains Bogota, Colombia (Instituto Geografico Augustin Cadazzi (IGAC) determina-tion).	Colombia	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.7, "BOO"]
BUKIT_RIMPAH_1987	27	Bukit Rimpah	WGS_1984	1987	Bangka and Belitung Islands (Indonesia)	OBLATE_ELLIPSOID	BESSEL_1841-_ETHIOPIA	[83502T, App. C.2, "BUR"]
CAMP_AREA_1987	30	Camp Area (astronomic)	WGS_1984	1987	McMurdo Camp Area (Antarctica)	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. C.2, "CAZ"]
CAMPO_INCHAUSPE-_1969	31	Campo Inchauspe	WGS_1984	1969	Argentina	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.7, "CAI"]
CANTON_1966	32	Canton (astronomic)	WGS_1984	1966	Phoenix Islands	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "CAO"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
CAPE_1987	33	Cape	WGS_1984	1987	South Africa	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "CAP"]
CAPE_CANAVERAL_1991	34	Cape Canaveral	WGS_1984	1991	Bahamas and Florida	OBLATE_ELLIPSOID	CLARKE_1866	[83502T, App. B.6, "CAC"]
CARTHAGE_1987	35	Carthage	WGS_1984	1987	Tunisia	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "CGE"]
CHATHAM_1971	37	Chatam (astronomic)	WGS_1984	1971	Chatham Islands (New Zealand)	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "CHI"]
CHUA_1987	38	Chua (astronomic)	WGS_1984	1987	Paraguay	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.7, "CHU"]
COAMPS_1998	39	Coupled Ocean/ Atmospheric Mesoscale Prediction System (COAMPS™)	WGS_1984	1998	Earth, Global	SPHERE_ORIGIN	COAMPS_1998	[ERNWM, Table 1, "COAMPS"]
CORREGO_ALEGRE-_1987	41	Corrego Alegre	WGS_1984	1987	Brazil	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.7, "COA"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
DABOLA_1991	43	Dabola	WGS_1984	1991	Guinea	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "DAL"]
DECEPTION_1993	44	Deception	WGS_1984	1993	Deception Island (Antarctica)	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.8, "DID"]
DJAKARTA_1987	49	Djakarta (also known as Batavia)	WGS_1984	1987	Sumatra (Indonesia)	OBLATE_ELLIPSOID	BESSEL_1841-_ETHIOPIA	[83502T, App. B.3, "BAT"]
DJAKARTA_1987_PM-_DJAKARTA	50	Djakarta (also known as Batavia; with the Prime Meridian at Djakarta)	WGS_1984	1987 The x-positive xz-half-plane contains Djarkata, Indonesia.	Sumatra (Indonesia)	OBLATE_ELLIPSOID	BESSEL_1841-_ETHIOPIA	[83502T, App. B.3, "BAT"]
DOS_1968	51	DOS	WGS_1984	1968	Gizo Island (New Georgia Islands)	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "GIZ"]
DOS_71_4_1987	52	DOS 71/4 (St. Helena Island; astronomic)	WGS_1984	1987	St. Helena Island	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.8, "SHB"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
EASTER_1967	60	Easter	WGS_1984	1967	Easter Island	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "EAS"]
ESTONIA_1937	64	Estonia	WGS_1984	1937	Estonia	OBLATE_ELLIPSOID	BESSEL_1841-_ETHIOPIA	[83502T, App. B.5, "EST"]
ETRS_1989	65	European Terrestrial Reference System (ETRS)	WGS_1984	1989	Europe	OBLATE-_ELLIPSOID-_ORIGIN	GRS_1980	[HELM, "EUT"]
EUROPE_1950	67	European	WGS_1984	1950	Europe	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.5, "EUR"]
EUROPE_1979	68	European	WGS_1984	1979	Europe	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.5, "EUS"]
FAHUD_1987	69	Fahud	WGS_1984	1987	Oman	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.3, "FAH"]
FORT_THOMAS_1955	70	Fort Thomas	WGS_1984	1955	St. Kitts, Nevis and Leeward Islands	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.8, "FOT"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
GAN_1970	72	Gan	WGS_1984	1970	Republic of Maldives	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.9, "GAA"]
GDA_1994	75	Geocentric Datum of Australia (GDA)	WGS_1984	1994	Australia	OBLATE-_ELLIPSOID-_ORIGIN	GRS_1980	[HELM, "GDS"]
GEODETIC_DATUM_1949	76	Geodetic Datum	WGS_1984	1949	New Zealand	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "GEO"]
GRACIOSA_BASE_SW-_1948	89	Graciosa Base SW	WGS_1984	1948	Central Azores (Faial, Graciosa, Pico, Sao Jorge and Terceira Islands)	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.8, "GRA"]
GUAM_1963	90	Guam	WGS_1984	1963	Guam	OBLATE_ELLIPSOID	CLARKE_1866	[83502T, App. B.10, "GUA"]
GUNONG_SEGARA_1987	91	Gunung Segara	WGS_1984	1987	Kalimantan Island (Indonesia)	OBLATE_ELLIPSOID	BESSEL_1841-_ETHIOPIA	[83502T, App. C.2, "GSE"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
GUX_1_1987	92	GUX1 (astronomic)	WGS_1984	1987	Guadalcanal Island	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "DOB"]
HERAT_NORTH_1987	98	Herat North	WGS_1984	1987	Afghanistan	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. C.2, "HEN"]
HERMANNSKOGEL_1871	99	Hermann-skogel	WGS_1984	1871	Austria, Yugoslavia (prior to 1990), Slovenia, Croatia, Bosnia and Herzegovina, and Serbia	OBLATE_ELLIPSOID	BESSEL_1841-_ETHIOPIA	[83502T, App. C.2, "HER"]
HJORSEY_1955	100	Hjorsey	WGS_1984	1955	Iceland	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.5, "HJO"]
HONG_KONG_1963	101	Hong Kong	WGS_1984	1963	Hong Kong	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.3, "HKD"]
HU_TZU_SHAN_1991	102	Hu-Tzu-Shan	WGS_1984	1991	Taiwan	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.3, "HTN"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
INDIAN_1916	105	Indian	WGS_1984	1991	Bangladesh	OBLATE_ELLIPSOID	EVEREST_ADJ-_1937	[83502T, App. B.3, "IND-B"]
INDIAN_1954	106	Indian	WGS_1984	1954	Thailand	OBLATE_ELLIPSOID	EVEREST_ADJ-_1937	[83502T, App. B.3, "INF"]
INDIAN_1956	107	Indian	WGS_1984	1991	India and Nepal	OBLATE_ELLIPSOID	EVEREST_1956	[83502T, App. B.3, "IND-I"]
INDIAN_1960	108	Indian	WGS_1984	1960	Vietnam	OBLATE_ELLIPSOID	EVEREST_ADJ-_1937	[83502T, App. B.3, "ING"]
INDIAN_1962	109	Indian	WGS_1984	1962	Pakistan	OBLATE_ELLIPSOID	EVEREST-_REVISED_1962	[83502T, App. C.2, "IND-P"]
INDIAN_1975	110	Indian	WGS_1984	1975	Thailand	OBLATE_ELLIPSOID	EVEREST_ADJ-_1937	[83502T, App. B.3, "INH"]
INDONESIAN_1974	111	Indonesian	WGS_1984	1974	Indonesia	OBLATE_ELLIPSOID	INDONESIAN-_1974	[83502T, App. B.3, "IDN"]
IRELAND_1965	113	Ireland 1965	WGS_1984	1965	Ireland	OBLATE_ELLIPSOID	MODIFIED_AIRY-_1849	[83502T, App. B.5, "IRL"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
ISTS_061_1968	114	International Satellite Triangulation Station (ISTS) 061 (astronomic)	WGS_1984	1968	South Georgia Island	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.8, "ISG"]
ISTS_073_1969	115	International Satellite Triangulation Station (ISTS) 073 (astronomic)	WGS_1984	1969	Diego Garcia	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.9, "IST"]
JGD_2000	117	Japanese Geodetic Datum 2000 (JGD2000)	WGS_1984	2000	Japan	OBLATE-_ELLIPSOID-_ORIGIN	GRS_1980	[GRFJ]
JOHNSTON_1961	118	Johnston	WGS_1984	1961	Johnston Island	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "JOH"]
KANDAWALA_1987	127	Kandawala	WGS_1984	1987	Sri Lanka	OBLATE_ELLIPSOID	EVEREST_ADJ-_1937	[83502T, App. B.3, "KAN"]
KERGUELEN_1949	128	Kerguelen	WGS_1984	1949	Kerguelen Island	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.9, "KEG"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
KERTAU_1948	129	Kertau	WGS_1984	1948	West Malaysia and Singapore	OBLATE_ELLIPSOID	EVEREST_1948	[83502T, App. B.3, "KEA"]
KOREAN_GEODETIC-_1995	130	Korean Geodetic System	WGS_1984	1995	South Korea	OBLATE_ELLIPSOID	WGS_1984	[83502T, App. B.3, "KGS"]
KUSAIE_1951	131	Kusaie 1951 (astronomic)	WGS_1984	1951	Caroline Islands (Federated States of Micronesia)	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "KUS"]
LC5_1961	133	LC5 (astronomic)	WGS_1984	1961	Cayman Brac Island	OBLATE_ELLIPSOID	CLARKE_1866	[83502T, App. B.8, "LCF"]
LEIGON_1991	134	Leigon	WGS_1984	1991	Ghana	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "LEH"]
LIBERIA_1964	135	Liberia	WGS_1984	1964	Liberia	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "LIB"]
LUZON_1987	136	Luzon	WGS_1984	1987	Philippines	OBLATE_ELLIPSOID	CLARKE_1866	[83502T, App. B.10, "LUZ"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
M_PORALOKO_1991	137	M'Poraloko	WGS_1984	1991	Gabon	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "MPO"]
MAHE_1971	138	Mahe	WGS_1984	1971	Mahe Island (Seychelles)	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.9, "MIK"]
MARCUS_STATION_1952	139	Marcus Station (astronomic)	WGS_1984	1952	Marcus Islands	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "ASQ"]
MASS_1999	143	MASS	WGS_1984	1999	Earth, Global	SPHERE_ORIGIN	MASS_1999	[ERNWM, Table 1, "MASS"]
MASSAWA_1987	144	Massawa	WGS_1984	1987	Eritrea and Ethiopia	OBLATE_ELLIPSOID	BESSEL_1841-_ETHIOPIA	[83502T, App. B.2, "MAS"]
MERCHICH_1987	145	Merchich	WGS_1984	1987	Morocco	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "MER"]
MIDWAY_1961	149	Midway 1961 (astronomic)	WGS_1984	1961	Midway Islands	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "MID"]
MINNA_1991	151	Minna	WGS_1984	1991	Cameroon and Nigeria	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "MIN"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
MM5_1997	153	Mesoscale (weather) Model 5(MM5) Air Force Weather Agency (AFWA) US	WGS_1984	1997	Earth, Global	SPHERE_ORIGIN	MM5_1997	[ERNWM, Table 1, "MM5 (AFWA)"]
MODTRAN-_MIDLATITUDE_N_1989	154	MODTRAN	WGS_1984	1989	Earth northern midlatitude regions	SPHERE_ORIGIN	MODTRAN-_MIDLATITUDE-_1989	[ERNWM, Table 1, "MODTRAN, Midlatitude"]
MODTRAN-_MIDLATITUDE_S_1989	155	MODTRAN	WGS_1984	1989	Earth southern midlatitude regions	SPHERE_ORIGIN	MODTRAN-_MIDLATITUDE-_1989	[ERNWM, Table 1, "MODTRAN, Midlatitude"]
MODTRAN_SUBARCTIC-_N_1989	156	MODTRAN	WGS_1984	1989	Earth northern subarctic regions	SPHERE_ORIGIN	MODTRAN-_SUBARCTIC-_1989	[ERNWM, Table 1, "MODTRAN, Subarctic"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
MODTRAN_SUBARCTIC-_S_1989	157	MODTRAN	WGS_1984	1989	Earth southern subarctic regions	SPHERE_ORIGIN	MODTRAN-_SUBARCTIC-_1989	[ERNWM, Table 1, "MODTRAN, Subarctic"]
MODTRAN_TROPICAL-_1989	158	MODTRAN	WGS_1984	1989	Earth tropical regions	SPHERE_ORIGIN	MODTRAN-_TROPICAL_1989	[ERNWM, Table 1, "MODTRAN, Tropical"]
MONTSERRAT_1958	159	Montserrat (astronomic)	WGS_1984	1958	Montserrat and Leeward Islands	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.8, "ASM"]
MULTIGEN_FLAT-_EARTH_1989	161	Multigen flat Earth	WGS_1984	1989	Earth, Global	SPHERE_ORIGIN	MULTIGEN_FLAT-_EARTH_1989	[MFCG]
N_AM_1927	162	North American	WGS_1984	1927	North America	OBLATE_ELLIPSOID	CLARKE_1866	[83502T, App. B.6, "NAS"]
N_AM_1983	163	North American	WGS_1984	1983	North America	OBLATE_ELLIPSOID	GRS_1980	[83502T, App. B.6, "NAR"], [NAD83]
N_SAHARA_1959	164	North Sahara	WGS_1984	1959	Algeria	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "NSD"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
NAHRWAN_1987	165	Nahrwan	WGS_1984	1987	Oman, Saudi Arabia, and the United Arab Emirates	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.3, "NAH"]
NAPARIMA_1991	167	Naparima BWI	WGS_1984	1991	Trinidad and Tobago (British West Indies)	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.8, "NAP"]
NOGAPS_1988	171	Navy Operational Global Atmospheric Prediction System (NOGAPS), US	WGS_1984	1988	Earth, Global	SPHERE_ORIGIN	NOGAPS_1988	[ERNWM, Table 1, "NOGAPS"]
NTF_1896	172	NTF	WGS_1984	1896	France	OBLATE_ELLIPSOID	CLARKE_1880-_IGN	[HELM, "NFR"]
NTF_1896_PM_PARIS	173	NTF (with the Prime Meridian at Paris)	WGS_1984	1896 The x-positive xz-half-plane contains Paris, France (IGN 1936 determina-tion).	France	OBLATE_ELLIPSOID	CLARKE_1880-_IGN	[HELM, "NFR"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
OBSERV_METEORO-_1939	175	Observatorio Meteoro-logico	WGS_1984	1939	Corvo Flores Islands (Azores)	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.8, "FLO"]
OLD_EGYPTIAN_1907	176	Old Egyptian	WGS_1984	1907	Egypt	OBLATE_ELLIPSOID	HELMERT_1906	[83502T, App. B.2, "OEG"]
OLD_HAWAIIAN-_CLARKE_1987	177	Old Hawaiian (Clarke)	WGS_1984	1987	Hawaiian Islands	OBLATE_ELLIPSOID	CLARKE_1866	[83502T, App. B.10, "OHA"]
OLD_HAWAIIAN_INT-_1987	178	Old Hawaiian (International)	WGS_1984	1987	Hawaiian Islands	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "OHI"]
OSGB_1936	180	Ordnance Survey of Great Britain	WGS_1984	1936	Great Britain	OBLATE_ELLIPSOID	AIRY_1830	[83502T, App. B.5, "OGB"]
PICO_DE_LAS_NIEVES-_1987	185	Pico de las Nieves	WGS_1984	1987	Canary Islands (Spain)	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.8, "PLN"]
PITCAIRN_1967	186	Pitcairn (astronomic)	WGS_1984	1967	Pitcairn Island	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "PIT"]
POINT_58_1991	189	Point 58	WGS_1984	1991	Burkina Faso and Niger	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "PTB"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
POINTE_NOIRE_1948	190	Pointe Noire	WGS_1984	1948	Congo	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "PTN"]
PORTO_SANTO_1936	192	Porto Santo	WGS_1984	1936	Porto Santo and Madeira Islands	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.8, "POS"]
PROV_S_AM_1956	195	Provisional South American	WGS_1984	1956	South America	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.7, "PRP"]
PROV_S_CHILEAN_1963	196	Provisional South Chilean (Hito XVIII)	WGS_1984	1963	South Chile	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.7, "HIT"]
PUERTO_RICO_1987	198	Puerto Rico	WGS_1984	1987	Puerto Rico and Virgin Islands	OBLATE_ELLIPSOID	CLARKE_1866	[83502T, App. B.8, "PUR"]
PULKOVO_1942	199	Pulkovo	WGS_1984	1942	Eastern Europe and Russia	OBLATE_ELLIPSOID	KRASSOVSKY-_1940	[83502T, App. C.2, "PUK"]
QATAR_NATIONAL_1974	200	Qatar National	WGS_1984	1974	Qatar	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.3, "QAT"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
QORNOQ_1987	201	Qornoq	WGS_1984	1987	South Greenland	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.8, "QUO"]
REUNION_1947	202	Reunion	WGS_1984	1947	Mascarene Islands	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.9, "REU"]
RGF_1993	203	Reseau Geodesique Francais	WGS_1984	1993	France	OBLATE_ELLIPSOID	GRS_1980	[RGF]
ROME_1940	205	Rome (also known as Monte Mario)	WGS_1984	1940	Sardinia	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.5, "MOD"]
ROME_1940_PM_ROME	206	Rome (also known as Monte Mario) (with the Prime Meridian at Rome)	WGS_1984	1940 The x-positive xz-half-plane contains Rome, Italy.	Sardinia	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.5, "MOD"]
S_AM_1969	208	South American	WGS_1984	1969	South America	OBLATE_ELLIPSOID	SOUTH-_AMERICAN-_1969	[83502T, App. B.7, "SAN"]
S_ASIA_1987	209	South Asia	WGS_1984	1987	Singapore	OBLATE_ELLIPSOID	MODIFIED-_FISCHER_1960	[83502T, App. B.3, "SOA"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
S_JTSK_1993	210	System - Jednotne Trigonometricke Siti Katastralni (S-JTSK) (Czechoslovakia)	WGS_1984	1993	Czech Republic and Slovakia	OBLATE_ELLIPSOID	BESSEL_1841-_ETHIOPIA	[83502T, App. B.5, "CCD"]
S42_PULKOVO	211	S-42 (Pulkovo)	WGS_1984	1942	Eastern Europe	OBLATE_ELLIPSOID	KRASSOVSKY-_1940	[HELM, "SPK", "Afghanistan"]
SANTO_DOS_1965	212	Santo (DOS)	WGS_1984	1965	Espirito Santo Island (Vanuatu)	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "SAE"]
SAO_BRAZ_1987	213	Sao Braz	WGS_1984	1987	Sao Miguel and Santa Maria Islands (Azores)	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.8, "SAO"]
SAPPER_HILL_1943	214	Sapper Hill	WGS_1984	1943	East Falkland Islands	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.8, "SAP"]
SCHWARZECK_1991	218	Schwarzeck	WGS_1984	1991	Namibia	OBLATE_ELLIPSOID	BESSEL_1841-_NAMIBIA	[83502T, App. B.2, "SCK"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
SELVAGEM_GRANDE-_1938	219	Selvagem Grande	WGS_1984	1938	Salvage Islands (Ilhas Selvagens; Savage Islands)	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.8, "SGM"]
SIERRA_LEONE_1960	220	Sierra Leone	WGS_1984	1960	Sierra Leone	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "SRL"]
SIRGAS_2000	221	Sistema de Referencia Geocentrico para America del Sur (SIRGAS)	WGS_1984	2000	South America	OBLATE-_ELLIPSOID-_ORIGIN	GRS_1980	[83502T, App. B.7, "SIR"]
TANANARIVE_OBS_1925	223	Tananarive Observatory	WGS_1984	1925	Madagascar	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. C.2, "TAN"]
TANANARIVE_OBS-_1925_PM_PARIS	224	Tananarive Observatory (with the Prime Meridian at Paris)	WGS_1984	1925 The x-positive xz-half-plane contains Paris, France (IGN 1936 determina-tion).	Madagascar	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. C.2, "TAN"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
TERN_1961	226	Tern (astronomic)	WGS_1984	1961	Tern Island (French Frigate Shoals, Hawaiian Islands)	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "TRN"]
TIMBALAI_EVEREST-_1948	230	Timbali (Everest)	WGS_1984	1948	Brunei and East Malaysia (Sabah and Sarawak)	OBLATE_ELLIPSOID	EVEREST-_BRUNEI_1967	[83502T, App. B.3, "TIL"]
TOKYO_1991	233	Tokyo	WGS_1984	1991	Japan, South Korea, and Okinawa	OBLATE_ELLIPSOID	BESSEL_1841-_ETHIOPIA	[83502T, App. B.3, "TOY"]
TRISTAN_1968	234	Tristan (astronomic)	WGS_1984	1968	Tristan da Cunha	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.8, "TDC"]
VITI_LEVU_1916	242	Viti Levu	WGS_1984	1916	Viti Levu Island (Fiji Islands)	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.10, "MVS"]
VOIROL_1874	243	Voirol	WGS_1984	1874	Algeria	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. C.2, "VOI"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
VOIROL_1874_PM-_PARIS	244	Voirol (with the Prime Meridian at Paris)	WGS_1984	1874 The x-positive xz-half-plane contains Paris, France (IGN 1936 determina-tion).	Algeria	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. C.2, "VOI"]
VOIROL_1960	245	Voirol - Revised	WGS_1984	1960	Algeria	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "VOR"]
VOIROL_1960_PM-_PARIS	246	Voirol - Revised (with the Prime Meridian at Paris)	WGS_1984	1960 The x-positive xz-half-plane contains Paris, France (IGN 1936 determina-tion).	Algeria	OBLATE_ELLIPSOID	CLARKE_1880	[83502T, App. B.2, "VOR"]
WAKE_1952	247	Wake (astronomic)	WGS_1984	1952	Wake Atoll	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.10, "WAK"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
WAKE_ENIWETOK_1960	248	Wake-Eniwetok	WGS_1984	1960	Marshall Islands	OBLATE_ELLIPSOID	HOUGH_1960	[83502T, App. B.10, "ENW"]
WGS_1972	249	World Geodetic System	WGS_1984	1972	Earth, Global	OBLATE-_ELLIPSOID-_ORIGIN	WGS_1972	[WGS72]
WGS_1984	250	World Geodetic System	This is the reference ORM for Earth.	1984 Note: The x-positive xz-half-plane contains Greenwich, UK.	Earth, Global	OBLATE-_ELLIPSOID-_ORIGIN	WGS_1984	[83502T]
YACARE_1987	251	Yacare (Uruguay)	WGS_1984	1987	Uruguay	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. C.2, "YAC"]
ZANDERIJ_1987	252	Zanderij (Suriname)	WGS_1984	1987	Suriname	OBLATE_ELLIPSOID	INTERNATIONAL-_1924	[83502T, App. B.7, "ZAN"]

NOTE 1: In Table E.6, when [83502T] and [GEOTRAN] both appear in the References element of an RT specification, [GEOTRAN] is the reference for the latitude and longitude values in the RT region element. The reference for all other elements of such an RT specification, including the region name(s) in the RT region element, is [83502T]. For non-Greenwich prime meridian RT specifications, the RT region longitude values are offset by ω_3, when applicable.

NOTE 2: For non-Greenwich prime meridian RT specifications in Table E.6, the RT parameters value, ω_3, is specified by this International Standard.

Table E.6 — Object-fixed ERM reference transformation specifications

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
ADINDAN_1991	ADINDAN_1991_BURKINA_FASO	3	Burkina Faso; +4º ≤ φ ≤ +22º; -12º ≤ λ ≤ +8º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1991	[83502T, App. B.2, "ADI-E"], [GEOTRAN, "ADI-E"]
	ADINDAN_1991_CAMEROON	4	Cameroon; -4º ≤ φ ≤ +19º; +3º ≤ λ ≤ +23º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1991	[83502T, App. B.2, "ADI-F"], [GEOTRAN, "ADI-F"]
	ADINDAN_1991_ETHIOPIA	5	Ethiopia; -3º ≤ φ ≤ +25º; +26º ≤ λ ≤ +50º	Δx = -165, Δy = -11, Δz = 206, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1991	[83502T, App. B.2, "ADI-A"], [GEOTRAN, "ADI-A"]
	ADINDAN_1991_MALI	6	Mali; +3º ≤ φ ≤ +31º; -20º ≤ λ ≤ +11º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1991	[83502T, App. B.2, "ADI-C"], [GEOTRAN, "ADI-C"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	ADINDAN_1991_MEAN_SOLUTION	7	Mean Solution (Ethiopia and Sudan); -5° ≤ φ ≤ +31°; +15° ≤ λ ≤ +55°	Δx = -166, Δy = -15, Δz = 204, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1991	[83502T, App. B.2, "ADI-M"], [GEOTRAN, "ADI-M"]
	ADINDAN_1991_SENEGAL	8	Senegal; +5° ≤ φ ≤ +23°; -24° ≤ λ ≤ -5°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1991	[83502T, App. B.2, "ADI-D"], [GEOTRAN, "ADI-D"]
	ADINDAN_1991_SUDAN	9	Sudan; -3° ≤ φ ≤ +31°; +15° ≤ λ ≤ +45°	Δx = -161, Δy = -14, Δz = 205, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1991	[83502T, App. B.2, "ADI-B"], [GEOTRAN, "ADI-B"]
AFGOOYE_1987	AFGOOYE_1987_SOMALIA	11	Somalia; -8° ≤ φ ≤ +19°; +35° ≤ λ ≤ +60°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1987	[83502T, App. B.2, "AFG"], [GEOTRAN, "AFG"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
AIN_EL_ABD_1970	AIN_EL_ABD_1970_BAHRAIN_ISLAND	12	Bahrain Island; +24º ≤ φ ≤ +28º; +49º ≤ λ ≤ +53º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1970	[83502T, App. B.3, "AIN-A"], [GEOTRAN, "AIN-A"]
	AIN_EL_ABD_1970_SAUDI_ARABIA	13	Saudi Arabia; +8º ≤ φ ≤ +38º; +28º ≤ λ ≤ +62º	Δx = -143, Δy = -236, Δz = 7, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1970	[83502T, App. B.3, "AIN-B"], [GEOTRAN, "AIN-B"]
AMERICAN_SAMOA-_1962	AMERICAN_SAMOA_1962_AMERICAN-_SAMOA_ISLANDS	15	American Samoa Islands; -19º ≤ φ ≤ -9º; -174º ≤ λ ≤ -165º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1962	[83502T, App. B.10, "AMA"], [GEOTRAN, "AMA"]
ANNA_1_1965	ANNA_1_1965_COCOS_ISLANDS	16	Cocos Islands; -14º ≤ φ ≤ -10º; +94º ≤ λ ≤ +99º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1965	[83502T, App. B.9, "ANO"], [GEOTRAN, "ANO"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
ANTIGUA_1943	ANTIGUA_1943_ANTIGUA_LEEWARD-_ISLANDS	17	Antigua and Leeward Islands; +16º ≤ φ ≤ +20º; -65º ≤ λ ≤ -61º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1943	[83502T, App. B.8, "AIA"], [GEOTRAN, "AIA"]
ARC_1950	ARC_1950_3_ZIMBABWE	18	Zimbabwe; -29º ≤ φ ≤ -9º; +19º ≤ λ ≤ +39º	Δx = -142, Δy = -96, Δz = -293, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1950	[83502T, App. B.2, "ARF-G"], [GEOTRAN, "ARF-G"]
	ARC_1950_BOTSWANA	19	Botswana; -33º ≤ φ ≤ -13º; +13º ≤ λ ≤ +36º	Δx = -138, Δy = -105, Δz = -289, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1950	[83502T, App. B.2, "ARF-A"], [GEOTRAN, "ARF-A"]
	ARC_1950_BURUNDI	20	Burundi; -11º ≤ φ ≤ +4º; +21º ≤ λ ≤ +37º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1950	[83502T, App. B.2, "ARF-H"], [GEOTRAN, "ARF-H"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	ARC_1950_LESOTHO	21	Lesotho; -36° ≤ φ ≤ -23°; +21° ≤ λ ≤ +35°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1950	[83502T, App. B.2, "ARF-B"], [GEOTRAN, "ARF-B"]
	ARC_1950_MALAWI	22	Malawi; -21° ≤ φ ≤ -3°; +26° ≤ λ ≤ +42°	Δx = -161, Δy = -73, Δz = -317, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1950	[83502T, App. B.2, "ARF-C"], [GEOTRAN, "ARF-C"]
	ARC_1950_MEAN_SOLUTION	23	Mean Solution (Botswana, Lesotho, Malawi, Swaziland, Zaire, Zambia and Zimbabwe); -36° ≤ φ ≤ +10°; +4° ≤ λ ≤ +42°	Δx = -143, Δy = -90, Δz = -294, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1950	[83502T, App. B.2, "ARF-M"], [GEOTRAN, "ARF-M"]
	ARC_1950_SWAZILAND	24	Swaziland; -33° ≤ φ ≤ -20°; +25° ≤ λ ≤ +40°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1950	[83502T, App. B.2, "ARF-D"], [GEOTRAN, "ARF-D"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
	ARC_1950_ZAIRE	25	Zaire; -21° ≤ φ ≤ +10°; +4° ≤ λ ≤ +38°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1950	[83502T, App. B.2, "ARF-E"], [GEOTRAN, "ARF-E"]
	ARC_1950_ZAMBIA	26	Zambia; -24° ≤ φ ≤ -1°; +15° ≤ λ ≤ +40°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1950	[83502T, App. B.2, "ARF-F"], [GEOTRAN, "ARF-F"]
ARC_1960	ARC_1960_3_KENYA	27	Kenya; -11° ≤ φ ≤ +8°; +28° ≤ λ ≤ +47°	Δx = -157, Δy = -2, Δz = -299, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1960	[83502T, App. B.2, "ARS-A"], [GEOTRAN, "ARS-A"]
	ARC_1960_MEAN_SOLUTION	28	Mean Solution (Kenya and Tanzania); -18° ≤ φ ≤ +8°; +23° ≤ λ ≤ +47°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1960	[83502T, App. B.2, "ARS-M"], [GEOTRAN, "ARS-M"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	ARC_1960_TANZANIA	29	Tanzania; -18° ≤ φ ≤ +5°; +23° ≤ λ ≤ +47°	Δx = -175, Δy = -23, Δz = -303, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1960	[83502T, App. B.2, "ARS-B"], [GEOTRAN, "ARS-B"]
ASCENSION_1958	ASCENSION_1958_ASCENSION_ISLAND	31	Ascension Island; -9° ≤ φ ≤ -6°; -16° ≤ λ ≤ -13°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1958	[83502T, App. B.8, "ASC"], [GEOTRAN, "ASC"]
AUSTRALIAN_GEOD-_1966	AUSTRALIAN_GEOD_1966_AUSTRALIA-_TASMANIA	33	Australia and Tasmania; -46° ≤ φ ≤ -4°; +109° ≤ λ ≤ +161°	Δx = -133, Δy = -48, Δz = 148, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1966	[83502T, App. B.4, "AUA"], [GEOTRAN, "AUA"]
AUSTRALIAN_GEOD-_1984	AUSTRALIAN_GEOD_1984_3_AUSTRALIA-_TASMANIA	34	Australia and Tasmania; -46° ≤ φ ≤ -4°; +109° ≤ λ ≤ +161°	Δx = -134, Δy = -48, Δz = 149, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1984	[83502T, App. B.4, "AUG"], [GEOTRAN, "AUG"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	AUSTRALIAN_GEOD_1984_7_AUSTRALIA-_TASMANIA	35	Australia and Tasmania; -46° ≤ φ ≤ -4°; +109° ≤ λ ≤ +161°	Δx = -116, Δy = -50,47, Δz = 141,69, ω_1 = 0,23″, ω_2 = 0,39″, ω_3 = 0,344″, Δs = 0,098 3 x 10^{-6}.	1984	[CECT, Table 1]
AYABELLE-_LIGHTHOUSE_1991	AYABELLE_LIGHTHOUSE_1991_DJIBOUTI	36	Djibouti; +5° ≤ φ ≤ +20°; +36° ≤ λ ≤ +49°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = ω_3 = 0″ : precise, Δs = 0 : precise	1991	[83502T, App. B.2, "PHA"], [GEOTRAN, "PHA"]
BEACON_E_1945	BEACON_E_1945_IWO_JIMA_ISLAND	37	Iwo Jima Island; +22° ≤ φ ≤ +26°; +140° ≤ λ ≤ +144°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = ω_3 = 0″ : precise, Δs = 0 : precise	1945	[83502T, App. B.10, "ATF"], [GEOTRAN, "ATF"]
BELLEVUE_IGN_1987	BELLEVUE_IGN_1987_EFATE-_ERROMANGO_ISLANDS	39	Efate and Erromango Islands (Vanuatu); -20° ≤ φ ≤ -16°; +167° ≤ λ ≤ +171°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = ω_3 = 0″ : precise, Δs = 0 : precise	1987	[83502T, App. B.10, "IBE"], [GEOTRAN, "IBE"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
BERMUDA_1957	BERMUDA_1957_BERMUDA	40	Bermuda; +31° ≤ φ ≤ +34°; -66° ≤ λ ≤ -63°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1957	[83502T, App. B.8, "BER"], [GEOTRAN, "BER"]
BISSAU_1991	BISSAU_1991_GUINEA_BISSAU	42	Guinea-Bissau; +5° ≤ φ ≤ +19°; -23° ≤ λ ≤ -7°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1991	[83502T, App. B.2, "BID"], [GEOTRAN, "BID"]
BOGOTA_OBS_1987	BOGOTA_OBS_1987_COLOMBIA	43	Colombia; -10° ≤ φ ≤ +16°; -85° ≤ λ ≤ -61°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. B.7, "BOO"], [GEOTRAN, "BOO"]
BOGOTA_OBS_1987_PM-_BOGOTA	BOGOTA_OBS_1987_PM_BOGOTA-_COLOMBIA	44	Colombia; -10° ≤ φ ≤ +16°; -11° ≤ λ ≤ +13°	Δx = 307, Δy = 304, Δz = -318, $\omega_1 = 0''$, $\omega_2 = 0''$, ω_3 = -74° 4′ 51,3″, Δs = 0. Note: The referenced z-axis rotation has been offset so that Bogota is contained in the x-positive xz-plane.	1987	[83502T, App. B.7, "BOO"], [GEOTRAN, "BOO"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
BUKIT_RIMPAH_1987	BUKIT_RIMPAH_1987_BANGKA-_BELITUNG_ISLANDS	45	Bangka and Belitung Islands (Indonesia); -6° ≤ φ ≤ +0°; +103° ≤ λ ≤ +110°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. C.2, "BUR"], [GEOTRAN, "BUR"]
CAMP_AREA_1987	CAMP_AREA_1987_MCMURDO_CAMP	48	McMurdo Camp Area (Antarctica); -85° ≤ φ ≤ -70°; +135° ≤ λ ≤ +180°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. C.2, "CAZ"], [GEOTRAN, "CAZ"]
CAMPO_INCHAUSPE-_1969	CAMPO_INCHAUSPE_1969_ARGENTINA	49	Argentina; -62° ≤ φ ≤ -20°; -76° ≤ λ ≤ -47°	Δx = -148, Δy = 136, Δz = 90, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1969	[83502T, App. B.7, "CAI"], [GEOTRAN, "CAI"]
CANTON_1966	CANTON_1966_PHOENIX_ISLANDS	50	Phoenix Islands; -13° ≤ φ ≤ +3°; -180° ≤ λ ≤ -165°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1966	[83502T, App. B.10, "CAO"], [GEOTRAN, "CAO"]

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CAPE_1987	CAPE_1987_SOUTH_AFRICA	51	South Africa; -43° ≤ φ ≤ -15°; +10° ≤ λ ≤ +40°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. B.2, "CAP"], [GEOTRAN, "CAP"]
CAPE_CANAVERAL_1991	CAPE_CANAVERAL_1991_MEAN-_SOLUTION	52	Mean Solution (Bahamas and Florida); +15° ≤ φ ≤ +38°; -94° ≤ λ ≤ -58°	Δx = -2, Δy = 151, Δz = 181, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1991	[83502T, App. B.6, "CAC"], [GEOTRAN, "CAC"]
CARTHAGE_1987	CARTHAGE_1987_TUNISIA	53	Tunisia; +24° ≤ φ ≤ +43°; +2° ≤ λ ≤ +18°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. B.2, "CGE"], [GEOTRAN, "CGE"]
CHATHAM_1971	CHATHAM_1971_CHATHAM_ISLANDS	55	Chatham Islands (New Zealand); -46° ≤ φ ≤ -42°; -180° ≤ λ ≤ -174°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1971	[83502T, App. B.7, "CHI"], [GEOTRAN, "CHI"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
CHUA_1987	CHUA_1987_PARAGUAY	56	Paraguay; -33° ≤ φ ≤ -14°; -69° ≤ λ ≤ -49°	Δx = -134, Δy = 229, Δz = -29, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1987	[83502T, App. B.7, "CHU"], [GEOTRAN, "CHU"]
COAMPS_1998	COAMPS_1998_IDENTITY_BY_DEFAULT	57	Global (Earth)	$\Delta x = \Delta y = \Delta z$ = 0, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1998	[ERNWM, Table 1, "COAMPS"]
CORREGO_ALEGRE_1987	CORREGO_ALEGRE_1987_BRAZIL	59	Brazil; -39° ≤ φ ≤ +9°; -80° ≤ λ ≤ -29°	Δx = -206, Δy = 172, Δz = -6, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1987	[83502T, App. B.7, "COA"], [GEOTRAN, "COA"]
DABOLA_1991	DABOLA_1991_GUINEA	61	Guinea; +1° ≤ φ ≤ +19°; -18° ≤ λ ≤ -4°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1991	[83502T, App. B.2, "DAL"], [GEOTRAN, "DAL"]
DECEPTION_1993	DECEPTION_1993_DECEPTION_ISLAND	62	Deception Island (Antarctica); -65° ≤ φ ≤ -62°; -62° ≤ λ ≤ -58°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1993	[83502T, App. B.8, "DID"], [GEOTRAN, "DID"]

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DJAKARTA_1987	DJAKARTA_1987_SUMATRA	68	Sumatra (Indonesia); -16º ≤ φ ≤ +11º; +89º ≤ λ ≤ +146º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. B.3, "BAT"], [GEOTRAN, "BAT"]
DJAKARTA_1987_PM-_DJAKARTA	DJAKARTA_1987_PM_DJAKARTA-_SUMATRA	67	Sumatra (Indonesia); -16º ≤ φ ≤ +11º; -18º ≤ λ ≤ +39º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = 0''$: precise, ω_3 = 106º 48′ 27,79″ : assumed precise, Δs = 0 : precise Note: The referenced z-axis rotation has been offset so that Djakarta is contained in the x-positive xz-plane.	1987	[83502T, App. B.3, "BAT"], [GEOTRAN, "BAT"]
DOS_1968	DOS_1968_GIZO_ISLAND	69	Gizo Island (New Georgia Islands); -10º ≤ φ ≤ -7º; +155º ≤ λ ≤ +158º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. B.10, "GIZ"], [GEOTRAN, "GIZ"]
DOS_71_4_1987	DOS_71_4_1987_ST_HELENA_ISLAND	70	St. Helena Island; -18º ≤ φ ≤ -14º; -7º ≤ λ ≤ -4º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. B.8, "SHB"], [GEOTRAN, "SHB"]

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EASTER_1967	EASTER_1967_EASTER_ISLAND	71	Easter Island; -29° ≤ φ ≤ -26°; -111° ≤ λ ≤ -108°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1967	[83502T, App. B.10, "EAS"], [GEOTRAN, "EAS"]
ESTONIA_1937	ESTONIA_1937_ESTONIA	75	Estonia; +52° ≤ φ ≤ +65°; +16° ≤ λ ≤ +34°	Δx = 374, Δy = 150, Δz = 588, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1937	[83502T, App. B.5, "EST"], [GEOTRAN, "EST"]
ETRS_1989	ETRS_1989_IDENTITY_BY-_MEASUREMENT	76	Europe; +34° ≤ φ ≤ +73°; -12° ≤ λ ≤ +30°	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1989	[HELM, "EUT"]
EUROPE_1950	EUROPE_1950_3_CYPRUS	78	Cyprus; +33° ≤ φ ≤ +37°; +31° ≤ λ ≤ +36°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1950	[83502T, App. B.5, "EUR-E"], [GEOTRAN, "EUR-E"]
	EUROPE_1950_CHANNEL_ISLANDS	79	Channel Islands; +48° ≤ φ ≤ +50°; -4° ≤ λ ≤ -1°	Δx = -83,901, Δy = -98,127, Δz = -118,635, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1950	[HELM, "EUR", "Channel Islands"]

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	EUROPE_1950_EGYPT	80	Egypt; +16° ≤ φ ≤ +38°; +19° ≤ λ ≤ +42°	Δx = -130, Δy = -117, Δz = -151, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1950	[83502T, App. B.5, "EUR-F"], [GEOTRAN, "EUR-F"]
	EUROPE_1950_ENGLAND_SCOTLAND	81	England, Scotland, Channel Islands and Shetland Islands; +48° ≤ φ ≤ +62°; -10° ≤ λ ≤ +3°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1950	[83502T, App. B.5, "EUR-G"], [GEOTRAN, "EUR-G"]
	EUROPE_1950_GREECE	82	Greece; +30° ≤ φ ≤ +48°; +14° ≤ λ ≤ +34°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1950	[83502T, App. B.5, "EUR-B"], [GEOTRAN, "EUR-B"]
	EUROPE_1950_IRAN	83	Iran; +19° ≤ φ ≤ +47°; +37° ≤ λ ≤ +69°	Δx = -117, Δy = -132, Δz = -164, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1950	[83502T, App. B.5, "EUR-H"], [GEOTRAN, "EUR-H"]

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	EUROPE_1950_IRAQ	84	Iraq; +20º ≤ φ ≤ +48º; +24º ≤ λ ≤ +60º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1950	[83502T, App. C.2, "EUR-S"], [GEOTRAN, "EUR-S"]
	EUROPE_1950_IRELAND	85	Ireland, Northern Ireland, Wales, England, Scotland, Channel Islands, and Shetland Islands; +48º ≤ φ ≤ +62º; -12º ≤ λ ≤ +3º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1950	[83502T, App. B.5, "EUR-K"], [GEOTRAN, "EUR-K"]
	EUROPE_1950_MALTA	86	Malta; +34º ≤ φ ≤ +38º; +12º ≤ λ ≤ +16º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1950	[83502T, App. B.5, "EUR-L"], [GEOTRAN, "EUR-L"]

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	EUROPE_1950_MEAN_SOLUTION	87	Mean Solution (Austria, Belgium, Denmark, Finland, France, FRG (Federal Republic of Germany), Gibraltar, Greece, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden and Switzerland); +30º ≤ φ ≤ +80º; +5º ≤ λ ≤ +33º	Δx = -87, Δy = -98, Δz = -121, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1950	[83502T, App. B.5, "EUR-M"], [GEOTRAN, "EUR-M"]
	EUROPE_1950_NORWAY	88	Finland and Norway; +52º ≤ φ ≤ +80º; -2º ≤ λ ≤ +38º	Δx = -87, Δy = -95, Δz = -120, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1950	[83502T, App. B.5, "EUR-C"], [GEOTRAN, "EUR-C"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
	EUROPE_1950_PORTUGAL_SPAIN	89	Portugal and Spain; +30º ≤ φ ≤ +49º; -15º ≤ λ ≤ +10º	Δx = -84, Δy = -107, Δz = -120, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1950	[83502T, App. B.5, "EUR-D"], [GEOTRAN, "EUR-D"]
	EUROPE_1950_SARDINIA	90	Sardinia (Italy); +37º ≤ φ ≤ +43º; +6º ≤ λ ≤ +12º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1950	[83502T, App. B.5, "EUR-I"], [GEOTRAN, "EUR-I"]
	EUROPE_1950_SICILY	91	Sicily (Italy); +35º ≤ φ ≤ +40º; +10º ≤ λ ≤ +17º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1950	[83502T, App. B.5, "EUR-J"], [GEOTRAN, "EUR-J"]
	EUROPE_1950_TUNISIA	92	Tunisia; +24º ≤ φ ≤ +43º; +2º ≤ λ ≤ +18º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1950	[83502T, App. B.5, "EUR-T"], [GEOTRAN, "EUR-T"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	EUROPE_1950_W_EUROPE_MEAN-_SOLUTION	93	Western Europe Mean Solution (Austria, Denmark, France, FRG (Federal Republic of Germany), Netherlands and Switzerland); +30° ≤ φ ≤ +78°; -15° ≤ λ ≤ +25°	Δx = -87, Δy = -96, Δz = -120, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1950	[83502T, App. B.5, "EUR-A"], [GEOTRAN, "EUR-A"]
EUROPE_1979	EUROPE_1979_MEAN_SOLUTION	94	Mean Solution (Austria, Finland, Netherlands, Norway, Spain, Sweden and Switzerland); +30° ≤ φ ≤ +80°; -15° ≤ λ ≤ +24°	Δx = -86, Δy = -98, Δz = -119, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1979	[83502T, App. B.5, "EUS"], [GEOTRAN, "EUS"]
FAHUD_1987	FAHUD_1987_3_OMAN	95	Oman; +10° ≤ φ ≤ +32°; +46° ≤ λ ≤ +65°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1987	[83502T, App. B.3, "FAH"], [GEOTRAN, "FAH"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
	FAHUD_1987_7_OMAN	96	Oman; +10° ≤ φ ≤ +32°; +46° ≤ λ ≤ +65°	Δx = -173,69, Δy = -247,71, Δz = 162,08, ω_1 = -1,141″, ω_2 = -2,730 8″, ω_3 = 8,634 3″, Δs = 19,727 x 10^{-6}.	1987	[HELM, "FAH-7"]
FORT_THOMAS_1955	FORT_THOMAS_1955_ST_KITTS_NEVIS-_LEEWARD_ISLANDS	97	St. Kitts, Nevis and Leeward Islands; +16° ≤ φ ≤ +19°; -64° ≤ λ ≤ -61°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = ω_3 = 0″ : precise, Δs = 0 : precise	1955	[83502T, App. B.8, "FOT"], [GEOTRAN, "FOT"]
GAN_1970	GAN_1970_MALDIVES	99	Republic of Maldives; -2° ≤ φ ≤ +9°; +71° ≤ λ ≤ +75°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = ω_3 = 0″ : precise, Δs = 0 : precise	1970	[83502T, App. B.9, "GAA"], [GEOTRAN, "GAA"]
GDA_1994	GDA_1994_IDENTITY_BY_DEFAULT	102	Australia; -42° ≤ φ ≤ -8°; +110° ≤ λ ≤ +155°	Δx = 0, Δy = 0, Δz = 0, ω_1 = ω_2 = ω_3 = 0″, Δs = 0.	1994	[HELM, "GDS"]
GEODETIC_DATUM_1949	GEODETIC_DATUM_1949_3_NEW-_ZEALAND	103	New Zealand; -48° ≤ φ ≤ -33°; +165° ≤ λ ≤ +180°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = ω_3 = 0″ : precise, Δs = 0 : precise	1949	[83502T, App. B.10, "GEO"], [GEOTRAN, "GEO"]

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	GEODETIC_DATUM_1949_7_NEW-_ZEALAND	104	New Zealand; -48° ≤ φ ≤ -33°; +165° ≤ λ ≤ +180°	Δx = 59,47, Δy = -5,04, Δz = 187,44, ω_1 = 0,47″, ω_2 = -0,1″, ω_3 = 1,024″, Δs = -4,599 3 x 10^{-6}.	1949	[HELM, "GEO-7"]
GRACIOSA_BASE_SW-_1948	GRACIOSA_BASE_SW_1948_CENTRAL-_AZORES	117	Central Azores (Faial, Graciosa, Pico, Sao Jorge and Terceira Islands); +37° ≤ φ ≤ +41°; -30° ≤ λ ≤ -26°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = ω_3 = 0″ : precise, Δs = 0 : precise	1948	[83502T, App. B.8, "GRA"], [GEOTRAN, "GRA"]
GUAM_1963	GUAM_1963_GUAM	118	Guam; +12° ≤ φ ≤ +15°; +143° ≤ λ ≤ +146°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = ω_3 = 0″ : precise, Δs = 0 : precise	1963	[83502T, App. B.10, "GUA"], [GEOTRAN, "GUA"]
GUNONG_SEGARA_1987	GUNONG_SEGARA_1987_KALIMANTAN-_ISLAND	119	Kalimantan Island (Indonesia); -6° ≤ φ ≤ +9°; +106° ≤ λ ≤ +121°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = ω_3 = 0″ : precise, Δs = 0 : precise	1987	[83502T, App. C.2, "GSE"], [GEOTRAN, "GSE"]

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GUX_1_1987	GUX_1_1987_GUADALCANAL_ISLAND	120	Guadalcanal Island; -12° ≤ φ ≤ -8°; +158° ≤ λ ≤ +163°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. B.10, "DOB"], [GEOTRAN, "DOB"]
HERAT_NORTH_1987	HERAT_NORTH_1987_AFGHANISTAN	122	Afghanistan; +23° ≤ φ ≤ +44°; +55° ≤ λ ≤ +81°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. C.2, "HEN"], [GEOTRAN, "HEN"]
HERMANNSKOGEL_1871	HERMANNSKOGEL_1871_3_YUGOSLAVIA	123	Yugoslavia (prior to 1990), Slovenia, Croatia, Bosnia and Herzegovina, and Serbia; +35° ≤ φ ≤ +52°; +7° ≤ λ ≤ +29°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1997	[83502T, App. C.2, "HER"], [GEOTRAN, "HER"]
HJORSEY_1955	HJORSEY_1955_ICELAND	124	Iceland; +61° ≤ φ ≤ +69°; -27° ≤ λ ≤ -11°	Δx = -73, Δy = 46, Δz = -86, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1955	[83502T, App. B.5, "HJO"], [GEOTRAN, "HJO"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
HONG_KONG_1963	HONG_KONG_1963_HONG_KONG	125	Hong Kong; +21° ≤ φ ≤ +24°; +112° ≤ λ ≤ +116°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1963	[83502T, App. B.3, "HKD"], [GEOTRAN, "HKD"]
HU_TZU_SHAN_1991	HU_TZU_SHAN_1991_TAIWAN	126	Taiwan; +20° ≤ φ ≤ +28°; +117° ≤ λ ≤ +124°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1991	[83502T, App. B.3, "HTN"], [GEOTRAN, "HTN"]
INDIAN_1916	INDIAN_1916_3_BANGLADESH	129	Bangladesh; +15° ≤ φ ≤ +33°; +80° ≤ λ ≤ +100°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1991	[83502T, App. B.3, "IND-B"], [GEOTRAN, "IND-B"]
	INDIAN_1916_7_BANGLADESH	130	Bangladesh; +15° ≤ φ ≤ +33°; +80° ≤ λ ≤ +100°	Δx = 79,2, Δy = 670,3, Δz = 230, ω_1 = 0″, ω_2 = 0″, ω_3 = -7,274″, Δs = 11,034 x 10^{-6}.	1916	[HELM, "IND-7"]
INDIAN_1954	INDIAN_1954_THAILAND	131	Thailand; +0° ≤ φ ≤ +27°; +91° ≤ λ ≤ +111°	Δx = 217, Δy = 823, Δz = 299, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1954	[83502T, App. B.3, "INF-A"], [GEOTRAN, "INF-A"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
INDIAN_1956	INDIAN_1956_INDIA_NEPAL	132	India and Nepal; +2º ≤ φ ≤ +44º; +62º ≤ λ ≤ +105º	Δx = 295, Δy = 736, Δz = 257, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1991	[83502T, App. B.3, "IND-I"], [GEOTRAN, "IND-I"]
INDIAN_1960	INDIAN_1960_CON_SON_ISLAND	133	Con Son Island (Vietnam); +6º ≤ φ ≤ +11º; +104º ≤ λ ≤ +109º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1960	[83502T, App. B.3, "ING-B"], [GEOTRAN, "ING-B"]
	INDIAN_1960_VIETNAM_16_N	134	Vietnam (near 16ºN); +2º ≤ φ ≤ +30º; +101º ≤ λ ≤ +115º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1960	[83502T, App. B.3, "ING-A"], [GEOTRAN, "ING-A"]
INDIAN_1962	INDIAN_1962_PAKISTAN	135	Pakistan; +17º ≤ φ ≤ +44º; +55º ≤ λ ≤ +81º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1993	[83502T, App. C.2, "IND-P"], [GEOTRAN, "IND-P"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
INDIAN_1975	INDIAN_1975_1991_THAILAND	136	Thailand; +0º ≤ φ ≤ +27º; +91º ≤ λ ≤ +111º	Δx = 209, Δy = 818, Δz = 290, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1991	[83502T, App. B.3, "INH-A"], [GEOTRAN, "INH-A"]
	INDIAN_1975_1997_THAILAND	137	Thailand; +0º ≤ φ ≤ +27º; +91º ≤ λ ≤ +111º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1997	[83502T, App. B.3, "INH-A1"], [GEOTRAN, "INH-A1"]
INDONESIAN_1974	INDONESIAN_1974_INDONESIA	138	Indonesia; -16º ≤ φ ≤ +11º; +89º ≤ λ ≤ +146º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1974	[83502T, App. B.3, "IDN"], [GEOTRAN, "IDN"]
IRELAND_1965	IRELAND_1965_3_IRELAND	140	Ireland; +50º ≤ φ ≤ +57º; -12º ≤ λ ≤ -4º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1965	[83502T, App. B.5, "IRL"], [GEOTRAN, "IRL"]
	IRELAND_1965_7_IRELAND	141	Ireland; +50º ≤ φ ≤ +57º; -12º ≤ λ ≤ -4º	Δx = 482,53, Δy = -130,596, Δz = 564,557, ω_1 = -1,042″, ω_2 = -0,214″, ω_3 = -0,631″, Δs = 8,15 x 10^{-6}.	1965	[HELM, "IRL-7"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
ISTS_061_1968	ISTS_061_1968_SOUTH_GEORGIA-_ISLAND	142	South Georgia Island; -56° ≤ φ ≤ -52°; -38° ≤ λ ≤ -34°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1968	[83502T, App. B.8, "ISG"], [GEOTRAN, "ISG"]
ISTS_073_1969	ISTS_073_1969_DIEGO_GARCIA	143	Diego Garcia; -10° ≤ φ ≤ -4°; +69° ≤ λ ≤ +75°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1969	[83502T, App. B.9, "IST"], [GEOTRAN, "IST"]
JGD_2000	JGD_2000_IDENTITY_BY_DEFAULT	145	Japan; +19° ≤ φ ≤ +51°; +119° ≤ λ ≤ +156°	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	2000	[GRFJ]
JOHNSTON_1961	JOHNSTON_1961_JOHNSTON_ISLAND	146	Johnston Island; +15° ≤ φ ≤ +19°; -171° ≤ λ ≤ -168°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1961	[83502T, App. B.10, "JOH"], [GEOTRAN, "JOH"]
KANDAWALA_1987	KANDAWALA_1987_3_SRI_LANKA	150	Sri Lanka; +4° ≤ φ ≤ +12°; +77° ≤ λ ≤ +85°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. B.3, "KAN"], [GEOTRAN, "KAN"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
KERGUELEN_1949	KERGUELEN_1949_KERGUELEN_ISLAND	151	Kerguelen Island; -52° ≤ φ ≤ -47°; +65° ≤ λ ≤ +74°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1949	[83502T, App. B.9, "KEG"], [GEOTRAN, "KEG"]
KERTAU_1948	KERTAU_1948_3_W_MALAYSIA-_SINGAPORE	152	West Malaysia and Singapore; -5° ≤ φ ≤ +12°; +94° ≤ λ ≤ +112°	Δx = -11, Δy = 851, Δz = 5, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1948	[83502T, App. B.3, "KEA"], [GEOTRAN, "KEA"]
KOREAN_GEODETIC-_1995	KOREAN_GEODETIC_1995_SOUTH-_KOREA	153	South Korea; +27° ≤ φ ≤ +45°; +120° ≤ λ ≤ +139°	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	2000	[83502T, App. B.3, "KGS"], [GEOTRAN, "KGS"]
KUSAIE_1951	KUSAIE_1951_CAROLINE_ISLANDS	154	Caroline Islands (Federated States of Micronesia); -1° ≤ φ ≤ +12°; +134° ≤ λ ≤ +167°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1951	[83502T, App. B.10, "KUS"], [GEOTRAN, "KUS"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
LC5_1961	LC5_1961_CAYMAN_BRAC_ISLAND	156	Cayman Brac Island; +18º ≤ φ ≤ +21º; -83º ≤ λ ≤ -78º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1961	[83502T, App. B.8, "LCF"], [GEOTRAN, "LCF"]
LEIGON_1991	LEIGON_1991_3_GHANA	157	Ghana; -1º ≤ φ ≤ +17º; -9º ≤ λ ≤ +7º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1991	[83502T, App. B.2, "LEH"], [GEOTRAN, "LEH"]
	LEIGON_1991_7_GHANA	158	Ghana; -1º ≤ φ ≤ +17º; -9º ≤ λ ≤ +7º	Δx = -135,58, Δy = 13,23, Δz = 364,13, ω_1 = 2,016 8″, ω_2 = -0,025 6″, ω_3 = 0,809 1″, $\Delta s = 0{,}719 \times 10^{-6}$.	1991	[HELM, "LEH-7"]
LIBERIA_1964	LIBERIA_1964_LIBERIA	159	Liberia; -1º ≤ φ ≤ +14º; -17º ≤ λ ≤ -1º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1964	[83502T, App. B.2, "LIB"], [GEOTRAN, "LIB"]
LUZON_1987	LUZON_1987_MINDANAO_ISLAND	160	Mindanao Island (Philippines); +4º ≤ φ ≤ +12º; +120º ≤ λ ≤ +128º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. B.10, "LUZ-B"], [GEOTRAN, "LUZ-B"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	LUZON_1987_PHILIPPINES_EXCLUDING-_MINDANAO_ISLAND	161	Philippines (excluding Mindanao Island); +3º ≤ φ ≤ +23º; +115º ≤ λ ≤ +128º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. B.10, "LUZ-A"], [GEOTRAN, "LUZ-A"]
M_PORALOKO_1991	M_PORALOKO_1991_GABON	162	Gabon; -10º ≤ φ ≤ +8º; +3º ≤ λ ≤ +20º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1991	[83502T, App. B.2, "MPO"], [GEOTRAN, "MPO"]
MAHE_1971	MAHE_1971_MAHE_ISLAND	163	Mahe Island (Seychelles); -6º ≤ φ ≤ -3º; +54º ≤ λ ≤ +57º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1971	[83502T, App. B.9, "MIK"], [GEOTRAN, "MIK"]
MARCUS_STATION_1952	MARCUS_STATION_1952_MARCUS-_ISLANDS	164	Marcus Islands; +22º ≤ φ ≤ +26º; +152º ≤ λ ≤ +156º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1952	[83502T, App. B.10, "ASQ"], [GEOTRAN, "ASQ"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
MASS_1999	MASS_1999_IDENTITY_BY_DEFAULT	167	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1999	[ERNWM, Table 1, "MASS"]
MASSAWA_1987	MASSAWA_1987_ERITREA_ETHIOPIA	168	Eritrea and Ethiopia; $+7° \le \varphi \le +25°$; $+37° \le \lambda \le +53°$	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, $\Delta s = 0$: precise	1987	[83502T, App. B.2, "MAS"], [GEOTRAN, "MAS"]
MERCHICH_1987	MERCHICH_1987_MOROCCO	169	Morocco; $+22° \le \varphi \le +42°$; $-19° \le \lambda \le +5°$	$\Delta x = 31$, $\Delta y = 146$, $\Delta z = 47$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1987	[83502T, App. B.2, "MER"], [GEOTRAN, "MER"]
MIDWAY_1961	MIDWAY_1961_MIDWAY_ISLANDS	172	Midway Islands; $+25° \le \varphi \le +30°$; $-180° \le \lambda \le -169°$	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, $\Delta s = 0$: precise	1961	[83502T, App. B.10, "MID"], [GEOTRAN, "MID"]
MINNA_1991	MINNA_1991_CAMEROON	174	Cameroon; $-4° \le \varphi \le +19°$; $+3° \le \lambda \le +23°$	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, $\Delta s = 0$: precise	1991	[83502T, App. B.2, "MIN-A"], [GEOTRAN, "MIN-A"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	MINNA_1991_NIGERIA	175	Nigeria; $-1° \le \varphi \le +21°$; $-4° \le \lambda \le +20°$	$\Delta x = -92$, $\Delta y = -93$, $\Delta z = 122$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1987	[83502T, App. B.2, "MIN-B"], [GEOTRAN, "MIN-B"]
MM5_1997	MM5_1997_IDENTITY_BY_DEFAULT	177	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1997	[ERNWM, Table 1, "MM5 (AFWA)"]
MODTRAN-_MIDLATITUDE_N_1989	MODTRAN_MIDLATITUDE_N_1989-_IDENTITY_BY_DEFAULT	178	Northern midlatitude regions (Earth); $+30° \le \varphi \le +60°$; $-180° \le \lambda \le +180°$	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1989	[ERNWM, Table 1, "MODTRAN, Midlatitude"]
MODTRAN-_MIDLATITUDE_S_1989	MODTRAN_MIDLATITUDE_S_1989-_IDENTITY_BY_DEFAULT	179	Southern midlatitude regions (Earth); $-60° \le \varphi \le -30°$; $-180° \le \lambda \le +180°$	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1989	[ERNWM, Table 1, "MODTRAN, Midlatitude"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
MODTRAN_SUBARCTIC-_N_1989	MODTRAN_SUBARCTIC_N_1989-_IDENTITY_BY_DEFAULT	180	Northern subarctic regions (Earth); +60º ≤ φ ≤ +75º; -180º ≤ λ ≤ +180º	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1989	[ERNWM, Table 1, "MODTRAN, Subarctic"]
MODTRAN_SUBARCTIC-_S_1989	MODTRAN_SUBARCTIC_S_1989-_IDENTITY_BY_DEFAULT	181	Southern subarctic regions (Earth); -75º ≤ φ ≤ -60º; -180º ≤ λ ≤ +180º	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1989	[ERNWM, Table 1, "MODTRAN, Subarctic"]
MODTRAN_TROPICAL-_1989	MODTRAN_TROPICAL_1989_IDENTITY-_BY_DEFAULT	182	Tropical regions (Earth); -30º ≤ φ ≤ +30º; -180º ≤ λ ≤ +180º	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1989	[ERNWM, Table 1, "MODTRAN, Tropical"]
MONTSERRAT_1958	MONTSERRAT_1958_MONTSERRAT-_LEEWARD_ISLANDS	183	Montserrat and Leeward Islands; +15º ≤ φ ≤ +18º; -64º ≤ λ ≤ -61º	$\Delta x = \{\Delta X(m)\}$, $\Delta y = \{\Delta Y(m)\}$, $\Delta z = \{\Delta Z(m)\}$, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, $\Delta s = 0$: precise	1958	[83502T, App. B.8, "ASM"], [GEOTRAN, "ASM"]
MULTIGEN_FLAT-_EARTH_1989	MULTIGEN_FLAT_EARTH_1989-_IDENTITY_BY_DEFAULT	185	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1989	[MFCG]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
N_AM_1927	N_AM_1927_ALASKA_EXCLUDING-_ALEUTIAN_ISLANDS	186	Alaska (excluding Aleutian Islands); +47º ≤ φ ≤ +78º; -175º ≤ λ ≤ -130º	Δx = -5, Δy = 135, Δz = 172, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1927	[83502T, App. B.6, "NAS-D"], [GEOTRAN, "NAS-D"]
	N_AM_1927_ALBERTA_BRITISH-_COLUMBIA	187	Canada (Alberta and British Columbia); +43º ≤ φ ≤ +65º; -145º ≤ λ ≤ -105º	Δx = -7, Δy = 162, Δz = 188, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1927	[83502T, App. B.6, "NAS-F"], [GEOTRAN, "NAS-F"]
	N_AM_1927_BAHAMAS_EXCLUDING-_SAN_SALVADOR_ISLAND	188	Bahamas (excluding San Salvador Island); +19º ≤ φ ≤ +29º; -83º ≤ λ ≤ -71º	Δx = -4, Δy = 154, Δz = 178, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1927	[83502T, App. B.6, "NAS-Q"], [GEOTRAN, "NAS-Q"]
	N_AM_1927_CANADA	189	Canada; +36º ≤ φ ≤ +90º; -150º ≤ λ ≤ -50º	Δx = -10, Δy = 158, Δz = 187, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1927	[83502T, App. B.6, "NAS-E"], [GEOTRAN, "NAS-E"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
	N_AM_1927_CANAL_ZONE	190	Canal Zone; +3º ≤ φ ≤ +15º; -86º ≤ λ ≤ -74º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1927	[83502T, App. B.6, "NAS-O"], [GEOTRAN, "NAS-O"]
	N_AM_1927_CARIBBEAN	191	Caribbean (Antigua Island, Barbados, Barbuda, Caicos Islands, Cuba, Dominican Republic, Grand Cayman, Jamaica and Turks Islands); +8º ≤ φ ≤ +29º; -87º ≤ λ ≤ -58º	Δx = -3, Δy = 142, Δz = 183, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1927	[83502T, App. B.6, "NAS-P"], [GEOTRAN, "NAS-P"]
	N_AM_1927_CENTRAL_AMERICA	192	Central America (Belize, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua); +3º ≤ φ ≤ +25º; -98º ≤ λ ≤ -77º	Δx = 0, Δy = 125, Δz = 194, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1927	[83502T, App. B.6, "NAS-N"], [GEOTRAN, "NAS-N"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	N_AM_1927_CONTINENTAL_US	193	Continental United States Mean Solution; +15º ≤ φ ≤ +60º; -135º ≤ λ ≤ -60º	Δx = -8, Δy = 160, Δz = 176, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1927	[83502T, App. B.6, "NAS-C"], [GEOTRAN, "NAS-C"]
	N_AM_1927_CUBA	194	Cuba; +18º ≤ φ ≤ +25º; -87º ≤ λ ≤ -72º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1927	[83502T, App. B.6, "NAS-T"], [GEOTRAN, "NAS-T"]
	N_AM_1927_EAST_ALEUTIAN_ISLANDS	195	Aleutian Islands (east of 180ºW); +50º ≤ φ ≤ +58º; -180º ≤ λ ≤ -161º	Δx = -2, Δy = 152, Δz = 149, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1927	[83502T, App. B.6, "NAS-V"], [GEOTRAN, "NAS-V"]
	N_AM_1927_EASTERN_CANADA	196	Eastern Canada (New Brunswick, Newfoundland, Nova Scotia and Quebec); +38º ≤ φ ≤ +68º; -85º ≤ λ ≤ -45º	Δx = -22, Δy = 160, Δz = 190, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1927	[83502T, App. B.6, "NAS-G"], [GEOTRAN, "NAS-G"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
	N_AM_1927_EASTERN_US	197	Eastern United States (Alabama, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia and Wisconsin); +18º ≤ φ ≤ +55º; -102º ≤ λ ≤ -60º	Δx = -9, Δy = 161, Δz = 179, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1927	[83502T, App. B.6, "NAS-A"], [GEOTRAN, "NAS-A"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
	N_AM_1927_HAYES_PENINSULA	198	Hayes Peninsula (Greenland); +74º ≤ φ ≤ +81º; -74º ≤ λ ≤ -56º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1927	[83502T, App. B.6, "NAS-U"], [GEOTRAN, "NAS-U"]
	N_AM_1927_MANITOBA_ONTARIO	199	Canada (Manitoba and Ontario); +36º ≤ φ ≤ +63º; -108º ≤ λ ≤ -69º	Δx = -9, Δy = 157, Δz = 184, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1927	[83502T, App. B.6, "NAS-H"], [GEOTRAN, "NAS-H"]
	N_AM_1927_MEXICO	200	Mexico; +10º ≤ φ ≤ +38º; -122º ≤ λ ≤ -80º	Δx = -12, Δy = 130, Δz = 190, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1927	[83502T, App. B.6, "NAS-L"], [GEOTRAN, "NAS-L"]
	N_AM_1927_NW_TERRITORIES-_SASKATCHEWAN	201	Canada (Northwest Territories and Saskatchewan); +43º ≤ φ ≤ +90º; -144º ≤ λ ≤ -55º	Δx = 4, Δy = 159, Δz = 188, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1927	[83502T, App. B.6, "NAS-I"], [GEOTRAN, "NAS-I"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
	N_AM_1927_SAN_SALVADOR_ISLAND	202	San Salvador Island; +23º ≤ φ ≤ +26º; -75º ≤ λ ≤ -74º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1927	[83502T, App. B.6, "NAS-R"], [GEOTRAN, "NAS-R"]
	N_AM_1927_WEST_ALEUTIAN_ISLANDS	203	Aleutian Islands (west of 180ºW); +50º ≤ φ ≤ +58º; +169º ≤ λ ≤ +180º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1927	[83502T, App. B.6, "NAS-W"], [GEOTRAN, "NAS-W"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	N_AM_1927_WESTERN_US	204	Western United States (Arizona, Arkansas, California, Colorado, Idaho, Iowa, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington and Wyoming); +19° ≤ φ ≤ +55°; -132° ≤ λ ≤ -87°	Δx = -8, Δy = 159, Δz = 175, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1927	[83502T, App. B.6, "NAS-B"], [GEOTRAN, "NAS-B"]
	N_AM_1927_YUKON	205	Canada (Yukon); +53° ≤ φ ≤ +75°; -147° ≤ λ ≤ -117°	Δx = -7, Δy = 139, Δz = 181, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1927	[83502T, App. B.6, "NAS-J"], [GEOTRAN, "NAS-J"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
N_AM_1983	N_AM_1983_ALASKA_EXCLUDING-_ALEUTIAN_ISLANDS	206	Alaska (excluding Aleutian Islands); +48º ≤ φ ≤ +78º; -175º ≤ λ ≤ -135º	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1983	[83502T, App. B.6, "NAR-A"], [GEOTRAN, "NAR-A"]
	N_AM_1983_ALEUTIAN_ISLANDS	207	Aleutian Islands; +51º ≤ φ ≤ +74º; -180º ≤ λ ≤ +180º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, $\Delta s = 0$: precise	1983	[83502T, App. B.6, "NAR-E"], [GEOTRAN, "NAR-E"]
	N_AM_1983_CANADA	208	Canada; +36º ≤ φ ≤ +90º; -150º ≤ λ ≤ -50º	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1983	[83502T, App. B.6, "NAR-B"], [GEOTRAN, "NAR-B"]
	N_AM_1983_CONTINENTAL_US	209	Continental United States; +15º ≤ φ ≤ +60º; -135º ≤ λ ≤ -60º	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1983	[83502T, App. B.6, "NAR-C"], [GEOTRAN, "NAR-C"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	N_AM_1983_HAWAII	210	Hawaii; +17° ≤ φ ≤ +24°; -164° ≤ λ ≤ -153°	Δx = 1, Δy = 1, Δz = -1, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1983	[83502T, App. B.6, "NAR-H"], [GEOTRAN, "NAR-H"]
	N_AM_1983_MEXICO_CENTRAL-_AMERICA	211	Mexico and Central America; +11° ≤ φ ≤ +35°; -122° ≤ λ ≤ -72°	$\Delta x = \Delta y = \Delta z$ = 0, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1983	[83502T, App. B.6, "NAR-D"], [GEOTRAN, "NAR-D"]
N_SAHARA_1959	N_SAHARA_1959_ALGERIA	212	Algeria; +13° ≤ φ ≤ +43°; -15° ≤ λ ≤ +18°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1959	[83502T, App. B.2, "NSD"], [GEOTRAN, "NSD"]
NAHRWAN_1987	NAHRWAN_1987_MASIRAH_ISLAND	213	Masirah Island (Oman); +19° ≤ φ ≤ +22°; +57° ≤ λ ≤ +60°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1987	[83502T, App. B.3, "NAH-A"], [GEOTRAN, "NAH-A"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
	NAHRWAN_1987_SAUDI_ARABIA	214	Saudi Arabia; +8° ≤ φ ≤ +38°; +28° ≤ λ ≤ +62°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1991	[83502T, App. B.3, "NAH-C"], [GEOTRAN, "NAH-C"]
	NAHRWAN_1987_UNITED_ARAB-_EMIRATES	215	United Arab Emirates; +17° ≤ φ ≤ +32°; +45° ≤ λ ≤ +62°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. B.3, "NAH-B"], [GEOTRAN, "NAH-B"]
NAPARIMA_1991	NAPARIMA_1991_TRINIDAD_TOBAGO	217	Trinidad and Tobago (British West Indies); +8° ≤ φ ≤ +13°; -64° ≤ λ ≤ -59°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1991	[83502T, App. B.8, "NAP"], [GEOTRAN, "NAP"]
NOGAPS_1988	NOGAPS_1988_IDENTITY_BY_DEFAULT	220	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1988	[ERNWM, Table 1, "NOGAPS"]
NTF_1896	NTF_1896_FRANCE	221	France; +42° ≤ φ ≤ +52°; -6° ≤ λ ≤ +10°	Δx = -168, Δy = -60, Δz = 320, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1896	[HELM, "NFR"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
NTF_1896_PM_PARIS	NTF_1896_PM_PARIS_FRANCE	222	France; +42° ≤ φ ≤ +52°; -8° ≤ λ ≤ +8°	Δx = -168, Δy = -60, Δz = 320, ω_1 = 0″, ω_2 = 0″, ω_3 = 8 414,025″, Δs = 8,15 x 10^{-6}. Note: The referenced z-axis rotation has been offset so that Paris is contained in the x-positive xz-plane.	1896	[HELM, "NFR"]
OBSERV_METEORO-_1939	OBSERV_METEORO_1939_CORVO-_FLORES_ISLANDS	224	Corvo Flores Islands (Azores); +38° ≤ φ ≤ +41°; -33° ≤ λ ≤ -30°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = ω_3 = 0″ : precise, Δs = 0 : precise	1939	[83502T, App. B.8, "FLO"], [GEOTRAN, "FLO"]
OLD_EGYPTIAN_1907	OLD_EGYPTIAN_1907_EGYPT	225	Egypt; +16° ≤ φ ≤ +38°; +19° ≤ λ ≤ +42°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = ω_3 = 0″ : precise, Δs = 0 : precise	1907	[83502T, App. B.2, "OEG"], [GEOTRAN, "OEG"]
OLD_HAWAIIAN-_CLARKE_1987	OLD_HAWAIIAN_CLARKE_1987_HAWAII	226	Hawaii (US); +17° ≤ φ ≤ +22°; -158° ≤ λ ≤ -153°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = ω_3 = 0″ : precise, Δs = 0 : precise	1991	[83502T, App. B.10, "OHA-A"], [GEOTRAN, "OHA-A"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
	OLD_HAWAIIAN_CLARKE_1987_KAUAI	227	Kauai (US); +20° ≤ φ ≤ +24°; -161° ≤ λ ≤ -158°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1991	[83502T, App. B.10, "OHA-B"], [GEOTRAN, "OHA-B"]
	OLD_HAWAIIAN_CLARKE_1987_MAUI	228	Maui (US); +19° ≤ φ ≤ +23°; -158° ≤ λ ≤ -154°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1991	[83502T, App. B.10, "OHA-C"], [GEOTRAN, "OHA-C"]
	OLD_HAWAIIAN_CLARKE_1987_MEAN-_SOLUTION	229	Mean Solution (Hawaii (US)); +17° ≤ φ ≤ +24°; -164° ≤ λ ≤ -153°	Δx = 61, Δy = -285, Δz = -181, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1987	[83502T, App. B.10, "OHA-M"], [GEOTRAN, "OHA-M"]
	OLD_HAWAIIAN_CLARKE_1987_OAHU	230	Oahu (US); +20° ≤ φ ≤ +23°; -160° ≤ λ ≤ -156°	Δx = 58, Δy = -283, Δz = -182, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1991	[83502T, App. B.10, "OHA-D"], [GEOTRAN, "OHA-D"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
OLD_HAWAIIAN_INT_1987	OLD_HAWAIIAN_INT_1987_HAWAII	231	Hawaii (US); +17° ≤ φ ≤ +22°; -158° ≤ λ ≤ -153°	Δx = 229, Δy = -222, Δz = -348, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	2000	[83502T, App. B.10, "OHI-A"], [GEOTRAN, "OHI-A"]
	OLD_HAWAIIAN_INT_1987_KAUAI	232	Kauai (US); +20° ≤ φ ≤ +24°; -161° ≤ λ ≤ -158°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	2000	[83502T, App. B.10, "OHI-B"], [GEOTRAN, "OHI-B"]
	OLD_HAWAIIAN_INT_1987_MAUI	233	Maui (US); +19° ≤ φ ≤ +23°; -158° ≤ λ ≤ -154°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	2000	[83502T, App. B.10, "OHI-C"], [GEOTRAN, "OHI-C"]
	OLD_HAWAIIAN_INT_1987_MEAN_SOLUTION	234	Mean Solution (Hawaii (US)); +17° ≤ φ ≤ +24°; -164° ≤ λ ≤ -153°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	2000	[83502T, App. B.10, "OHI-M"], [GEOTRAN, "OHI-M"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
	OLD_HAWAIIAN_INT_1987_OAHU	235	Oahu (US); +20º ≤ φ ≤ +23º; -160º ≤ λ ≤ -156º	Δx = 198, Δy = -226, Δz = -347, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	2000	[83502T, App. B.10, "OHI-D"], [GEOTRAN, "OHI-D"]
OSGB_1936	OSGB_1936_3_MEAN_SOLUTION	237	Mean Solution (England, Isle of Man, Scotland, Shetland, and Wales); +44º ≤ φ ≤ +66º; -14º ≤ λ ≤ +7º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1936	[83502T, App. B.5, "OGB-M"], [GEOTRAN, "OGB-M"]
	OSGB_1936_7_GREAT_BRITAIN	238	Great Britain; +49º ≤ φ ≤ +60º; -9º ≤ λ ≤ +3º	Δx = 446,448, Δy = -125,157, Δz = 542,06, ω_1 = 0,15″, ω_2 = 0,247″, ω_3 = 0,8421″, Δs = -20,49 x 10^{-6}.	1936	[HELM, "OGB-7"]
	OSGB_1936_ENGLAND	239	England; +44º ≤ φ ≤ +61º; -12º ≤ λ ≤ +7º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1936	[83502T, App. B.5, "OGB-A"], [GEOTRAN, "OGB-A"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	OSGB_1936_ENGLAND_ISLE_OF_MAN-_WALES	240	England, Isle of Man, and Wales; +44° ≤ φ ≤ +61°; -12° ≤ λ ≤ +7°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1936	[83502T, App. B.5, "OGB-B"], [GEOTRAN, "OGB-B"]
	OSGB_1936_SCOTLAND_SHETLAND-_ISLANDS	241	Scotland and Shetland Islands; +49° ≤ φ ≤ +66°; -14° ≤ λ ≤ +4°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1936	[83502T, App. B.5, "OGB-C"], [GEOTRAN, "OGB-C"]
	OSGB_1936_WALES	242	Wales; +46° ≤ φ ≤ +59°; -11° ≤ λ ≤ +3°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1936	[83502T, App. B.5, "OGB-D"], [GEOTRAN, "OGB-D"]
PICO_DE_LAS_NIEVES-_1987	PICO_DE_LAS_NIEVES_1987_CANARY-_ISLANDS	247	Canary Islands (Spain); +26° ≤ φ ≤ +31°; -20° ≤ λ ≤ -12°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. B.8, "PLN"], [GEOTRAN, "PLN"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
PITCAIRN_1967	PITCAIRN_1967_PITCAIRN_ISLAND	248	Pitcairn Island; -27° ≤ φ ≤ -21°; -134° ≤ λ ≤ -119°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1967	[83502T, App. B.10, "PIT"], [GEOTRAN, "PIT"]
POINT_58_1991	POINT_58_1991_MEAN_SOLUTION	250	Mean Solution (Burkina Faso and Niger); +0° ≤ φ ≤ +10°; -15° ≤ λ ≤ +25°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1991	[83502T, App. B.2, "PTB"], [GEOTRAN, "PTB"]
POINTE_NOIRE_1948	POINTE_NOIRE_1948_CONGO	251	Congo; -11° ≤ φ ≤ +10°; +5° ≤ λ ≤ +25°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1948	[83502T, App. B.2, "PTN"], [GEOTRAN, "PTN"]
PORTO_SANTO_1936	PORTO_SANTO_1936_PORTO_SANTO-_MADEIRA_ISLANDS	253	Porto Santo and Madeira Islands; +31° ≤ φ ≤ +35°; -18° ≤ λ ≤ -15°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1936	[83502T, App. B.8, "POS"], [GEOTRAN, "POS"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
PROV_S_AM_1956	PROV_S_AM_1956_3_VENEZUELA	256	Venezuela; $-5^{o} \le \varphi \le +18^{o}$; $-79^{o} \le \lambda \le -54^{o}$	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1956	[83502T, App. B.7, "PRP-H"], [GEOTRAN, "PRP-H"]
	PROV_S_AM_1956_7_VENEZUELA	257	Venezuela; $-5^{o} \le \varphi \le +18^{o}$; $-79^{o} \le \lambda \le -54^{o}$	Δx = -197,43, Δy = 139,39, Δz = -192,8, ω_1 = 5,266″, ω_2 = 1,238″, ω_3 = -2,381″, $\Delta s = -5{,}109 \times 10^{-6}$.	1956	[HELM, "PRP-7"]
	PROV_S_AM_1956_BOLIVIA	258	Bolivia; $-28^{o} \le \varphi \le -4^{o}$; $-75^{o} \le \lambda \le -51^{o}$	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1956	[83502T, App. B.7, "PRP-A"], [GEOTRAN, "PRP-A"]
	PROV_S_AM_1956_COLOMBIA	259	Colombia; $-10^{o} \le \varphi \le +16^{o}$; $-85^{o} \le \lambda \le -61^{o}$	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1956	[83502T, App. B.7, "PRP-D"], [GEOTRAN, "PRP-D"]
	PROV_S_AM_1956_ECUADOR	260	Ecuador; $-11^{o} \le \varphi \le +7^{o}$; $-85^{o} \le \lambda \le -70^{o}$	Δx = -278, Δy = 171, Δz = -367, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1956	[83502T, App. B.7, "PRP-E"], [GEOTRAN, "PRP-E"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
	PROV_S_AM_1956_GUYANA	261	Guyana; -4º ≤ φ ≤ +14º; -67º ≤ λ ≤ -51º	Δx = -298, Δy = 159, Δz = -369, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1956	[83502T, App. B.7, "PRP-F"], [GEOTRAN, "PRP-F"]
	PROV_S_AM_1956_MEAN_SOLUTION	262	Mean Solution (Bolivia, Chile, Colombia, Ecuador, Guyana, Peru and Venezuela); -64º ≤ φ ≤ +18º; -87º ≤ λ ≤ -51º	Δx = -288, Δy = 175, Δz = -376, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1956	[83502T, App. B.7, "PRP-M"], [GEOTRAN, "PRP-M"]
	PROV_S_AM_1956_N_CHILE_19_S	263	Northern Chile (near 19ºS); -45º ≤ φ ≤ -12º; -83º ≤ λ ≤ -60º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1956	[83502T, App. B.7, "PRP-B"], [GEOTRAN, "PRP-B"]
	PROV_S_AM_1956_PERU	264	Peru; -24º ≤ φ ≤ +5º; -87º ≤ λ ≤ -63º	Δx = -279, Δy = 175, Δz = -379, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1956	[83502T, App. B.7, "PRP-G"], [GEOTRAN, "PRP-G"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	PROV_S_AM_1956_S_CHILE_43_S	265	Southern Chile (near 43ºS); -64º ≤ φ ≤ -20º; -83º ≤ λ ≤ -60º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1956	[83502T, App. B.7, "PRP-C"], [GEOTRAN, "PRP-C"]
PROV_S_CHILEAN_1963	PROV_S_CHILEAN_1963_SOUTH_CHILE	266	South Chile (near 53ºS); -64º ≤ φ ≤ -25º; -83º ≤ λ ≤ -60º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1963	[83502T, App. B.7, "HIT"], [GEOTRAN, "HIT"]
PUERTO_RICO_1987	PUERTO_RICO_1987_PUERTO_RICO-_VIRGIN_ISLANDS	268	Puerto Rico and Virgin Islands; +16º ≤ φ ≤ +20º; -69º ≤ λ ≤ -63º	Δx = 11, Δy = 72, Δz = -101, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1987	[83502T, App. B.8, "PUR"], [GEOTRAN, "PUR"]
PULKOVO_1942	PULKOVO_1942_RUSSIA	269	Russia; +36º ≤ φ ≤ +89º; -180º ≤ λ ≤ +180º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1942	[83502T, App. C.2, "PUK"], [GEOTRAN, "PUK"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
QATAR_NATIONAL_1974	QATAR_NATIONAL_1974_3_QATAR	270	Qatar; +19° ≤ φ ≤ +32°; +45° ≤ λ ≤ +57°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. B.3, "QAT"], [GEOTRAN, "QAT"]
QORNOQ_1987	QORNOQ_1987_SOUTH_GREENLAND	271	South Greenland; +57° ≤ φ ≤ +85°; -77° ≤ λ ≤ -7°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. B.8, "QUO"], [GEOTRAN, "QUO"]
REUNION_1947	REUNION_1947_MASCARENE_ISLANDS	272	Mascarene Islands; -27° ≤ φ ≤ -12°; +47° ≤ λ ≤ +65°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1947	[83502T, App. B.9, "REU"], [GEOTRAN, "REU"]
RGF_1993	RGF_1993_IDENTITY_BY_MEASUREMENT	273	France; +42° ≤ φ ≤ +52°; -6° ≤ λ ≤ +10°	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1993	[RGF]
ROME_1940	ROME_1940_SARDINIA	276	Sardinia (Italy); +37° ≤ φ ≤ +43°; +6° ≤ λ ≤ +12°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1940	[83502T, App. B.5, "MOD"], [GEOTRAN, "MOD"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
ROME_1940_PM_ROME	ROME_1940_PM_ROME_SARDINIA	275	Sardinia (Italy); $+37° \le \varphi \le +43°$; $-6.5° \le \lambda \le -0.5°$	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = 0''$: precise, ω_3 = 12° 27′ 8,4″ : assumed precise, Δs = 0 : precise Note: The referenced z-axis rotation has been offset so that Rome is contained in the x-positive xz-plane.	1940	[83502T, App. B.5, "MOD"], [GEOTRAN, "MOD"]
S_AM_1969	S_AM_1969_ARGENTINA	278	Argentina; $-62° \le \varphi \le -20°$; $-76° \le \lambda \le -47°$	Δx = -62, Δy = -1, Δz = -37, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1969	[83502T, App. B.7, "SAN-A"], [GEOTRAN, "SAN-A"]
	S_AM_1969_BALTRA_GALAPAGOS-_ISLANDS	279	Baltra and Galapagos Islands (Ecuador); $-2° \le \varphi \le +1°$; $-92° \le \lambda \le -89°$	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1969	[83502T, App. B.7, "SAN-J"], [GEOTRAN, "SAN-J"]
	S_AM_1969_BOLIVIA	280	Bolivia; $-28° \le \varphi \le -4°$; $-75° \le \lambda \le -51°$	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1969	[83502T, App. B.7, "SAN-B"], [GEOTRAN, "SAN-B"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	S_AM_1969_BRAZIL	281	Brazil; -39º ≤ φ ≤ +9º; -80º ≤ λ ≤ -29º	Δx = -60, Δy = -2, Δz = -41, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1969	[83502T, App. B.7, "SAN-C"], [GEOTRAN, "SAN-C"]
	S_AM_1969_CHILE	282	Chile; -64º ≤ φ ≤ -12º; -83º ≤ λ ≤ -60º	Δx = -75, Δy = -1, Δz = -44, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1969	[83502T, App. B.7, "SAN-D"], [GEOTRAN, "SAN-D"]
	S_AM_1969_COLOMBIA	283	Colombia; -10º ≤ φ ≤ +16º; -85º ≤ λ ≤ -61º	Δx = -44, Δy = 6, Δz = -36, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1969	[83502T, App. B.7, "SAN-E"], [GEOTRAN, "SAN-E"]
	S_AM_1969_ECUADOR_EXCLUDING-_GALAPAGOS_ISLANDS	284	Ecuador (excluding Galapagos Islands); -11º ≤ φ ≤ +7º; -85º ≤ λ ≤ -70º	Δx = -48, Δy = 3, Δz = -44, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1969	[83502T, App. B.7, "SAN-F"], [GEOTRAN, "SAN-F"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	S_AM_1969_GUYANA	285	Guyana; -4° ≤ φ ≤ +14°; -67° ≤ λ ≤ -51°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1969	[83502T, App. B.7, "SAN-G"], [GEOTRAN, "SAN-G"]
	S_AM_1969_MEAN_SOLUTION	286	Mean Solution (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Trinidad and Tobago, and Venezuela); -65° ≤ φ ≤ -50°; -90° ≤ λ ≤ -25°	Δx = -57, Δy = 1, Δz = -41, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1969	[83502T, App. B.7, "SAN-M"], [GEOTRAN, "SAN-M"]
	S_AM_1969_PARAGUAY	287	Paraguay; -33° ≤ φ ≤ -14°; -69° ≤ λ ≤ -49°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1969	[83502T, App. B.7, "SAN-H"], [GEOTRAN, "SAN-H"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	S_AM_1969_PERU	288	Peru; -24° ≤ φ ≤ +5°; -87° ≤ λ ≤ -63°	Δx = -58, Δy = 0, Δz = -44, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1969	[83502T, App. B.7, "SAN-I"], [GEOTRAN, "SAN-I"]
	S_AM_1969_TRINIDAD_TOBAGO	289	Trinidad and Tobago (British West Indies); +4° ≤ φ ≤ +17°; -68° ≤ λ ≤ -55°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1969	[83502T, App. B.7, "SAN-K"], [GEOTRAN, "SAN-K"]
	S_AM_1969_VENEZUELA	290	Venezuela; -5° ≤ φ ≤ +18°; -79° ≤ λ ≤ -54°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1969	[83502T, App. B.7, "SAN-L"], [GEOTRAN, "SAN-L"]
S_ASIA_1987	S_ASIA_1987_SINGAPORE	291	Singapore; +0° ≤ φ ≤ +3°; +102° ≤ λ ≤ +106°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1987	[83502T, App. B.3, "SOA"], [GEOTRAN, "SOA"]
S_JTSK_1993	S_JTSK_1993_CZECH_REPUBLIC	292	Czech Republic; +47° ≤ φ ≤ +52°; +11° ≤ λ ≤ +20°	Δx = 570,8, Δy = 85,7, Δz = 462,8, ω_1 = 4,998″, ω_2 = 1,587″, ω_3 = 5,261″, Δs = 3,56 x 10^{-6}.	1993	[HELM, "CCD-7", "Czech Republic"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
	S_JTSK_1993_CZECH_REPUBLIC-_SLOVAKIA	293	Czech Republic and Slovakia; +43º ≤ φ ≤ +56º; +6º ≤ λ ≤ +28º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1993	[83502T, App. B.5, "CCD"], [GEOTRAN, "CCD"]
S42_PULKOVO	S42_PULKOVO_3_POLAND	294	Poland; +43º ≤ φ ≤ +60º; +8º ≤ λ ≤ +30º	Δx = 23, Δy = -124, Δz = -82, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1942	[83502T, App. B.5, "SPK-B"], [GEOTRAN, "SPK-B"]
	S42_PULKOVO_ALBANIA	295	Albania; +34º ≤ φ ≤ +48º; +14º ≤ λ ≤ +26º	Δx = 24, Δy = -130, Δz = -92, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1942	[83502T, App. B.5, "SPK-F"], [GEOTRAN, "SPK-F"]
	S42_PULKOVO_CZECH_REPUBLIC-_SLOVAKIA	296	Czech Republic and Slovakia; +42º ≤ φ ≤ +57º; +6º ≤ λ ≤ +28º	Δx = 26, Δy = -121, Δz = -78, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1942	[83502T, App. B.5, "SPK-C"], [GEOTRAN, "SPK-C"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
	S42_PULKOVO_G_ROMANIA	297	Romania; +38º ≤ φ ≤ +54º; +15º ≤ λ ≤ +35º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1942	[83502T, App. B.5, "SPK-G"], [GEOTRAN, "SPK-G"]
	S42_PULKOVO_HUNGARY	298	Hungary; +40º ≤ φ ≤ +54º; +11º ≤ λ ≤ +29º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1942	[83502T, App. B.5, "SPK-A"], [GEOTRAN, "SPK-A"]
	S42_PULKOVO_KAZAKHSTAN	299	Kazakhstan; +35º ≤ φ ≤ +62º; +41º ≤ λ ≤ +93º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1942	[83502T, App. B.5, "SPK-E"], [GEOTRAN, "SPK-E"]
	S42_PULKOVO_LATVIA	300	Latvia; +50º ≤ φ ≤ +64º; +15º ≤ λ ≤ +34º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1942	[83502T, App. B.5, "SPK-D"], [GEOTRAN, "SPK-D"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
SANTO_DOS_1965	SANTO_DOS_1965_ESPIRITO_SANTO-_ISLAND	301	Espirito Santo Island (Vanuatu); -20° ≤ φ ≤ -11°; +163° ≤ λ ≤ +172°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1965	[83502T, App. B.10, "SAE"], [GEOTRAN, "SAE"]
SAO_BRAZ_1987	SAO_BRAZ_1987_SAO_MIGUEL_SANTA-_MARIA_ISLANDS	302	Sao Miguel and Santa Maria Islands (Azores); +35° ≤ φ ≤ +39°; -27° ≤ λ ≤ -23°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. B.8, "SAO"], [GEOTRAN, "SAO"]
SAPPER_HILL_1943	SAPPER_HILL_1943_3_E_FALKLAND-_ISLANDS	303	East Falkland Islands; -54° ≤ φ ≤ -50°; -61° ≤ λ ≤ -56°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1943	[83502T, App. B.8, "SAP"], [GEOTRAN, "SAP"]
SCHWARZECK_1991	SCHWARZECK_1991_NAMIBIA	306	Namibia; -35° ≤ φ ≤ -11°; +5° ≤ λ ≤ +31°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1991	[83502T, App. B.2, "SCK"], [GEOTRAN, "SCK"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
SELVAGEM_GRANDE-_1938	SELVAGEM_GRANDE_1938_SALVAGE-_ISLANDS	307	Salvage Islands (Ilhas Selvagens; Savage Islands); +28° ≤ φ ≤ +32°; -18° ≤ λ ≤ -14°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1938	[83502T, App. B.8, "SGM"], [GEOTRAN, "SGM"]
SIERRA_LEONE_1960	SIERRA_LEONE_1960_SIERRA_LEONE	308	Sierra Leone; +1° ≤ φ ≤ +16°; -19° ≤ λ ≤ -4°	Δx = -88, Δy = 4, Δz = 101, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1960	[83502T, App. B.2, "SRL"], [GEOTRAN, "SRL"]
SIRGAS_2000	SIRGAS_2000_IDENTITY_BY_DEFAULT	309	South America; -65° ≤ φ ≤ -50°; -90° ≤ λ ≤ -25°	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1988	[83502T, App. B.7, "SIR"], [GEOTRAN, "SIR"]
TANANARIVE_OBS_1925	TANANARIVE_OBS_1925_3-_MADAGASCAR	311	Madagascar; -34° ≤ φ ≤ -8°; +40° ≤ λ ≤ +53°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1925	[83502T, App. C.2, "TAN"], [GEOTRAN, "TAN"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
TANANARIVE_OBS-_1925_PM_PARIS	TANANARIVE_OBS_1925_PM_PARIS_3-_MADAGASCAR	312	Madagascar; -34° ≤ φ ≤ -8°; +38° ≤ λ ≤ +51°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = 0″ : precise, ω_3 = 8 414,025″ : assumed precise, Δs = 0 : precise Note: The referenced z-axis rotation has been offset so that Paris is contained in the x-positive xz-plane.	1925	[83502T, App. C.2, "TAN"], [GEOTRAN, "TAN"]
TERN_1961	TERN_1961_TERN_ISLAND	314	Tern Island (French Frigate Shoals, Hawaiian Islands); +22° ≤ φ ≤ +26°; -168° ≤ λ ≤ -164°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = ω_3 = 0″ : precise, Δs = 0 : precise	1961	[83502T, App. B.10, "TRN"], [GEOTRAN, "TRN"]
TIMBALAI_EVEREST-_1948	TIMBALAI_EVEREST_1948_3_BRUNEI_E-_MALAYSIA	318	Brunei and East Malaysia (Sabah and Sarawak); -5° ≤ φ ≤ +15°; +101° ≤ λ ≤ +125°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = ω_3 = 0″ : precise, Δs = 0 : precise	1948	[83502T, App. B.3, "TIL"], [GEOTRAN, "TIL"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	TIMBALAI_EVEREST_1948_7_BRUNEI_E-_MALAYSIA	319	Brunei and East Malaysia (Sabah and Sarawak); -5º ≤ φ ≤ +15º; +101º ≤ λ ≤ +125º	Δx = -582,33, Δy = 671,57, Δz = -108,15, ω_1 = 1,744″, ω_2 = 0,56″, ω_3 = 2,876″, Δs = 6,495 x 10^{-6}.	1948	[HELM, "TIL-7"]
TOKYO_1991	TOKYO_1991_JAPAN	322	Japan; +19º ≤ φ ≤ +51º; +119º ≤ λ ≤ +156º	Δx = -148, Δy = 507, Δz = 685, ω_1 = ω_2 = ω_3 = 0″, Δs = 0.	1991	[83502T, App. B.3, "TOY-A"], [GEOTRAN, "TOY-A"]
	TOKYO_1991_MEAN_SOLUTION	323	Mean Solution (Japan, Korea, and Okinawa); +23º ≤ φ ≤ +53º; +120º ≤ λ ≤ +155º	Δx = -148, Δy = 507, Δz = 685, ω_1 = ω_2 = ω_3 = 0″, Δs = 0.	1991	[83502T, App. B.3, "TOY-M"], [GEOTRAN, "TOY-M"]
	TOKYO_1991_OKINAWA	324	Okinawa (Japan); +19º ≤ φ ≤ +31º; +119º ≤ λ ≤ +134º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, ω_1 = ω_2 = ω_3 = 0″ : precise, Δs = 0 : precise	1991	[83502T, App. B.3, "TOY-C"], [GEOTRAN, "TOY-C"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
	TOKYO_1991_SOUTH_KOREA_1991	325	South Korea; +27° ≤ φ ≤ +45°; +120° ≤ λ ≤ +139°	Δx = -146, Δy = 507, Δz = 687, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1991	[83502T, App. B.3, "TOY-B"], [GEOTRAN, "TOY-B"]
	TOKYO_1991_SOUTH_KOREA_1997	326	South Korea; +27° ≤ φ ≤ +45°; +120° ≤ λ ≤ +139°	Δx = -147, Δy = 506, Δz = 687, $\omega_1 = \omega_2 = \omega_3$ = 0″, Δs = 0.	1997	[83502T, App. B.3, "TOY-B1"], [GEOTRAN, "TOY-B1"]
TRISTAN_1968	TRISTAN_1968_TRISTAN_DA_CUNHA	327	Tristan da Cunha; -39° ≤ φ ≤ -36°; -14° ≤ λ ≤ -11°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1968	[83502T, App. B.8, "TDC"], [GEOTRAN, "TDC"]
VITI_LEVU_1916	VITI_LEVU_1916_VITI_LEVU_ISLANDS	333	Viti Levu Island (Fiji Islands); -20° ≤ φ ≤ -16°; +176° ≤ λ ≤ +180°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1916	[83502T, App. B.10, "MVS"], [GEOTRAN, "MVS"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
VOIROL_1874	VOIROL_1874_ALGERIA	334	Algeria; +13º ≤ φ ≤ +43º; -15º ≤ λ ≤ +18º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1874	[83502T, App. C.2, "VOI"], [GEOTRAN, "VOI"]
VOIROL_1874_PM_PARIS	VOIROL_1874_PM_PARIS_ALGERIA	335	Algeria; +13º ≤ φ ≤ +43º; -17º ≤ λ ≤ +16º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2$ = 0″ : precise, ω_3 = 8 414,025″ : assumed precise, Δs = 0 : precise Note: The referenced z-axis rotation has been offset so that Paris is contained in the x-positive xz-plane.	1874	[83502T, App. C.2, "VOI"], [GEOTRAN, "VOI"]
VOIROL_1960	VOIROL_1960_ALGERIA	336	Algeria; +13º ≤ φ ≤ +43º; -15º ≤ λ ≤ +18º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1960	[83502T, App. B.2, "VOR"], [GEOTRAN, "VOR"]
VOIROL_1960_PM_PARIS	VOIROL_1960_PM_PARIS_ALGERIA	337	Algeria; +13º ≤ φ ≤ +43º; -17º ≤ λ ≤ +16º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2$ = 0″ : precise, ω_3 = 8 414,025″ : assumed precise, Δs = 0 : precise Note: The referenced z-axis rotation has been offset so that Paris is contained in the x-positive xz-plane.	1960	[83502T, App. B.2, "VOR"], [GEOTRAN, "VOR"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
WAKE_1952	WAKE_1952_WAKE_ATOLL	338	Wake Atoll; +17° ≤ φ ≤ +21°; +164° ≤ λ ≤ +168°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1952	[83502T, App. B.10, "WAK"], [GEOTRAN, "WAK"]
WAKE_ENIWETOK_1960	WAKE_ENIWETOK_1960_MARSHALL-_ISLANDS	339	Marshall Islands; +1° ≤ φ ≤ +16°; +159° ≤ λ ≤ +175°	Δx = 102, Δy = 52, Δz = -38, $\omega_1 = \omega_2 = \omega_3 = 0''$, Δs = 0.	1960	[83502T, App. B.10, "ENW"], [GEOTRAN, "ENW"]
WGS_1972	WGS_1972_GLOBAL	340	Global (Earth)	Δx = {dx} : {second column before last} m, Δy = {dy} : {column next to last} m, Δz = {dz} : {last column} m, ω_1 = {rx}″ : unknown, ω_2 = {ry}″ : unknown, ω_3 = {rz}″ : unknown, Δs = {ds} x 10^{-6} : assumed precise	1972	[HELM, "WGC-7"]
WGS_1984	WGS_1984_IDENTITY	341	Global (Earth)	The reference ORM for the Earth.	1984	[83502T, Section 3]
YACARE_1987	YACARE_1987_URUGUAY	342	Uruguay; -40° ≤ φ ≤ -25°; -65° ≤ λ ≤ -47°	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3 = 0''$: precise, Δs = 0 : precise	1987	[83502T, App. C.2, "YAC"], [GEOTRAN, "YAC"]

ORM label	RT label	RT code	RT region	RT parameters	Date publish-ed	References
ZANDERIJ_1987	ZANDERIJ_1987_SURINAME	343	Suriname; -10º ≤ φ ≤ +20º; -76º ≤ λ ≤ -47º	Δx = {ΔX(m)}, Δy = {ΔY(m)}, Δz = {ΔZ(m)}, $\omega_1 = \omega_2 = \omega_3$ = 0″ : precise, Δs = 0 : precise	1987	[83502T, App. B.7, "ZAN"], [GEOTRAN, "ZAN"]

Table E.7 — Dynamic ERM specifications

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
EARTH_INERTIAL-_ARIES_1950	53	Earth equatorial inertial, Aries mean of 1950	WGS_1984	OBRS EQUATORIAL_INERTIAL Note: First point of Aries, mean of 1950.	Vicinity of Earth	BI_AXIS-_ORIGIN-_3D	n/a	Clause 7.5.2
EARTH_INERTIAL-_ARIES_TRUE_OF-_DATE	54	Earth equatorial inertial, Aries true of date	WGS_1984	OBRS EQUATORIAL_INERTIAL Note: First point of Aries, true of date.	Vicinity of Earth	BI_AXIS-_ORIGIN-_3D	n/a	Clause 7.5.2
EARTH_INERTIAL-_J2000r0	55	Earth equatorial inertial, J2000.0	WGS_1984	OBRS EQUATORIAL_INERTIAL Note: First point of Aries as of 2000 Jan 1 11:58:55.816 UTC.	Vicinity of Earth	BI_AXIS-_ORIGIN-_3D	n/a	Clause 7.5.2
EARTH_SOLAR-_ECLIPTIC	56	Solar ecliptic	WGS_1984	OBRS SOLAR_ECLIPTIC	Vicinity of Earth	BI_AXIS-_ORIGIN-_3D	n/a	[HAPG]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
EARTH_SOLAR-_EQUATORIAL	57	Solar equatorial	WGS_1984	OBRS SOLAR_EQUATORIAL	Vicinity of Earth	BI_AXIS-_ORIGIN-_3D	n/a	[CRUS]
EARTH_SOLAR-_MAG_DIPOLE	58	Solar magnetic dipole	WGS_1984	OBRS SOLAR_MAGNETIC-_DIPOLE	Vicinity of Earth	BI_AXIS-_ORIGIN-_3D	n/a	[CRUS], [BHAV]
EARTH_SOLAR-_MAGNETOSPHERIC	59	Solar magnetospheric	WGS_1984	OBRS SOLAR_MAGNETIC-_ECLIPTIC	Vicinity of Earth	BI_AXIS-_ORIGIN-_3D	n/a	[CRUS]

Table E.8 — Time-fixed instances of dynamic ERM specifications

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
GEOMAGNETIC-_1945	77	Geomagnetic	WGS_1984	1945 OBRS CELESTIOMAGNETIC Note: Object-fixed base epoch for the 5 year period 1945 to 1950.	Vicinity of Earth	BI_AXIS-_ORIGIN_3D	n/a	[DAGF, Table I, "DGRF 1945"]
GEOMAGNETIC-_1950	78	Geomagnetic	WGS_1984	1950 OBRS CELESTIOMAGNETIC Note: Object-fixed base epoch for the 5 year period 1950 to 1955.	Vicinity of Earth	BI_AXIS-_ORIGIN_3D	n/a	[DAGF, Table I, "DGRF 1950"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
GEOMAGNETIC-_1955	79	Geomagnetic	WGS_1984	1955 OBRS CELESTIOMAGNETIC Note: Object-fixed base epoch for the 5 year period 1955 to 1960.	Vicinity of Earth	BI_AXIS-_ORIGIN_3D	n/a	[DAGF, Table I, "DGRF 1955"]
GEOMAGNETIC-_1960	80	Geomagnetic	WGS_1984	1960 OBRS CELESTIOMAGNETIC Note: Object-fixed base epoch for the 5 year period 1960 to 1965.	Vicinity of Earth	BI_AXIS-_ORIGIN_3D	n/a	[DAGF, Table I, "DGRF 1960"]
GEOMAGNETIC-_1965	81	Geomagnetic	WGS_1984	1965 OBRS CELESTIOMAGNETIC Note: Object-fixed base epoch for the 5 year period 1965 to 1970.	Vicinity of Earth	BI_AXIS-_ORIGIN_3D	n/a	[DAGF, Table I, "DGRF 1965"]
GEOMAGNETIC-_1970	82	Geomagnetic	WGS_1984	1970 OBRS CELESTIOMAGNETIC Note: Object-fixed base epoch for the 5 year period 1970 to 1975.	Vicinity of Earth	BI_AXIS-_ORIGIN_3D	n/a	[DAGF, Table I, "DGRF 1970"]
GEOMAGNETIC-_1975	83	Geomagnetic	WGS_1984	1975 OBRS CELESTIOMAGNETIC Note: Object-fixed base epoch for the 5 year period 1975 to 1980.	Vicinity of Earth	BI_AXIS-_ORIGIN_3D	n/a	[DAGF, Table I, "DGRF 1975"]
GEOMAGNETIC-_1980	84	Geomagnetic	WGS_1984	1980 OBRS CELESTIOMAGNETIC Note: Object-fixed base epoch for the 5 year period 1980 to 1985.	Vicinity of Earth	BI_AXIS-_ORIGIN_3D	n/a	[DAGF, Table I, "DGRF 1980"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
GEOMAGNETIC-_1985	85	Geomagnetic	WGS_1984	1985 OBRS CELESTIOMAGNETIC Note: Object-fixed base epoch for the 5 year period 1985 to 1990.	Vicinity of Earth	BI_AXIS-_ORIGIN_3D	n/a	[DAGF, Table I, "DGRF 1985"]
GEOMAGNETIC-_1990	86	Geomagnetic	WGS_1984	1990 OBRS CELESTIOMAGNETIC Note: Object-fixed base epoch for the 5 year period 1990 to 1995.	Vicinity of Earth	BI_AXIS-_ORIGIN_3D	n/a	[DAGF, Table I, "DGRF 1990"]
GEOMAGNETIC-_1995	87	Geomagnetic	WGS_1984	1995 OBRS CELESTIOMAGNETIC Note: Object-fixed base epoch for the 5 year period 1995 to 2000.	Vicinity of Earth	BI_AXIS-_ORIGIN_3D	n/a	[DAGF, Table I, "IGRF 1995"]
GEOMAGNETIC-_2000	88	Geomagnetic	WGS_1984	2000 OBRS CELESTIOMAGNETIC Note: Object-fixed base epoch for the 5 year period 2000 to 2005.	Vicinity of Earth	BI_AXIS-_ORIGIN_3D	n/a	[DAGF, Table I, "IGRF 2000"]

Table E.9 — Time-fixed instances of dynamic ERM reference transformation specifications

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
GEOMAGNETIC-_1945	GEOMAGNETIC_1945-_DGRF	105	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0º$, $\omega_2 = -11{,}53º$, $\omega_3 = -68{,}53º$, $\Delta s = 0$. Note: Centred dipole model northern pole.	1945	[DAGF, Table I, "DGRF 1945"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
GEOMAGNETIC-_1950	GEOMAGNETIC_1950-_DGRF	106	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0º$, $\omega_2 = -11{,}53º$, $\omega_3 = -68{,}85º$, $\Delta s = 0$. Note: Centred dipole model northern pole.	1950	[DAGF, Table I, "DGRF 1950"]
GEOMAGNETIC-_1955	GEOMAGNETIC_1955-_DGRF	107	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0º$, $\omega_2 = -11{,}54º$, $\omega_3 = -69{,}16º$, $\Delta s = 0$. Note: Centred dipole model northern pole.	1955	[DAGF, Table I, "DGRF 1955"]
GEOMAGNETIC-_1960	GEOMAGNETIC_1960-_DGRF	108	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0º$, $\omega_2 = -11{,}49º$, $\omega_3 = -69{,}47º$, $\Delta s = 0$. Note: Centred dipole model northern pole.	1960	[DAGF, Table I, "DGRF 1960"]
GEOMAGNETIC-_1965	GEOMAGNETIC_1965-_DGRF	109	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0º$, $\omega_2 = -11{,}47º$, $\omega_3 = -69{,}85º$, $\Delta s = 0$. Note: Centred dipole model northern pole.	1965	[DAGF, Table I, "DGRF 1965"]
GEOMAGNETIC-_1970	GEOMAGNETIC_1970-_DGRF	110	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0º$, $\omega_2 = -11{,}41º$, $\omega_3 = -70{,}18º$, $\Delta s = 0$. Note: Centred dipole model northern pole.	1970	[DAGF, Table I, "DGRF 1970"]
GEOMAGNETIC-_1975	GEOMAGNETIC_1975-_DGRF	111	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0º$, $\omega_2 = -11{,}31º$, $\omega_3 = -70{,}47º$, $\Delta s = 0$. Note: Centred dipole model northern pole.	1975	[DAGF, Table I, "DGRF 1975"]
GEOMAGNETIC-_1980	GEOMAGNETIC_1980-_DGRF	112	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0º$, $\omega_2 = -11{,}19º$, $\omega_3 = -70{,}76º$, $\Delta s = 0$. Note: Centred dipole model northern pole.	1980	[DAGF, Table I, "DGRF 1980"]
GEOMAGNETIC-_1985	GEOMAGNETIC_1985-_DGRF	113	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0º$, $\omega_2 = -11{,}018º$, $\omega_3 = -70{,}905º$, $\Delta s = 0$. Note: Centred dipole model northern pole.	1985	[DAGF, Table I, "DGRF 1985"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
GEOMAGNETIC-_1990	GEOMAGNETIC_1990-_DGRF	114	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0^o$, $\omega_2 = -10{,}87^o$, $\omega_3 = -71{,}11^o$, $\Delta s = 0$. Note: Centred dipole model northern pole.	1990	[DAGF, Table I, "DGRF 1990"]
GEOMAGNETIC-_1995	GEOMAGNETIC_1995-_IGRF	115	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0^o$, $\omega_2 = -10{,}70^o$, $\omega_3 = -71{,}41^o$, $\Delta s = 0$. Note: Centred dipole model northern pole.	1995	[DAGF, Table I, "IGRF 1995"]
GEOMAGNETIC-_2000	GEOMAGNETIC_2000-_IGRF	116	Global (Earth)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0^o$, $\omega_2 = -10{,}46^o$, $\omega_3 = -71{,}57^o$, $\Delta s = 0$. Note: Centred dipole model northern pole.	2000	[DAGF, Table I, "IGRF 2000"]

Table E.10 — Object-fixed planet (non-Earth) ORM specifications

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
EROS_2000	63	Eros (asteroid 433)	This is the reference ORM for Eros (asteroid 433, a minor planet).	2000 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Eros"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Eros, Global	SPHERE	EROS_2000	[RIIC, Table III, "Eros"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
GASPRA_1991	74	Gaspra (asteroid 951)	This is the reference ORM for Gaspra (asteroid 951, a minor planet).	1991 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table II, "Gaspra"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Gaspra, Global	TRI_AXIAL-_ELLIPSOID	GASPRA_1991	[RIIC, Table III, "Gaspra"]
IDA_1991	104	Ida (asteroid 243)	This is the reference ORM for Ida (asteroid 243, a minor planet).	1991 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table II, "Ida"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Ida, Global	TRI_AXIAL-_ELLIPSOID	IDA_1991	[RIIC, Table III, "Ida"]
JUPITER_1988	120	Jupiter	This is the reference ORM for Jupiter (a planet).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table I, "Jupiter"}, with its associated accuracy as specified in {Section 2, paragraph 5}. Bound to the magnetic field (System III)	Jupiter, Global	OBLATE-_ELLIPSOID	JUPITER_1988	[RIIC, Table I, "Jupiter"]
MARS_2000	140	Mars	This is the reference ORM for Mars (a planet).	2000 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table I, "Mars"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Mars, Global	OBLATE-_ELLIPSOID	MARS_2000	[RIIC, Table I, "Mars"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
MARS_SPHERE-_2000	142	Mars (spherical)	MARS_2000	2000 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table I, "Mars"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Mars, Global	SPHERE	MARS-_SPHERE_2000	[RIIC, Table I, "Mars"]
MERCURY_1988	146	Mercury	This is the reference ORM for Mercury (a planet).	1988 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table I, "Mercury"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Mercury, Global	SPHERE	MERCURY-_1988	[RIIC, Table I, "Mercury"]
NEPTUNE_1991	168	Neptune	This is the reference ORM for Neptune (a planet).	1991 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table I, "Neptune"}, with its associated accuracy as specified in {Section 2, paragraph 5}. Bound to the magnetic field (System III)	Neptune, Global	OBLATE-_ELLIPSOID	NEPTUNE_1991	[RIIC, Table I, "Neptune"]
PLUTO_1994	187	Pluto	This is the reference ORM for Pluto (a planet).	1994 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table I, "Pluto"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Pluto, Global	SPHERE	PLUTO_1994	[RIIC, Table I, "Pluto"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
SATURN_1988	215	Saturn	This is the reference ORM for Saturn (a planet).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table I, "Saturn"}, with its associated accuracy as specified in {Section 2, paragraph 5}. Bound to the magnetic field (System III)	Saturn, Global	OBLATE-_ELLIPSOID	SATURN_1988	[RIIC, Table I, "Saturn"]
URANUS_1988	237	Uranus	This is the reference ORM for Uranus (a planet).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table I, "Uranus"}, with its associated accuracy as specified in {Section 2, paragraph 5}. Bound to the magnetic field (System III)	Uranus, Global	OBLATE-_ELLIPSOID	URANUS_1988	[RIIC, Table I, "Uranus"]
VENUS_1991	240	Venus	This is the reference ORM for Venus (a planet).	1991 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table I, "Venus"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Venus, Global	SPHERE	VENUS_1991	[RIIC, Table I, "Venus"]

Table E.11 — Object-fixed planet (non-Earth) ORM reference transformation specifications

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
EROS_2000	EROS_2000_IDENTITY	74	Global (Eros)	**The reference ORM for object Eros.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table III, "Eros"]
GASPRA_1991	GASPRA_1991-_IDENTITY	101	Global (Gaspra)	**The reference ORM for object Gaspra.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table III, "Gaspra"]
IDA_1991	IDA_1991_IDENTITY	128	Global (Ida)	**The reference ORM for object Ida.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table III, "Ida"]
JUPITER_1988	JUPITER_1988-_IDENTITY	148	Global (Jupiter)	**The reference ORM for object Jupiter.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table I, "Jupiter"]
MARS_2000	MARS_2000_IDENTITY	165	Global (Mars)	**The reference ORM for object Mars.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table I, "Mars"]
MARS_SPHERE-_2000	MARS_SPHERE_2000-_IDENTITY_BY-_DEFAULT	166	Global (Mars)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table I, "Mars"]
MERCURY_1988	MERCURY_1988-_IDENTITY	170	Global (Mercury)	**The reference ORM for object Mercury.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table I, "Mercury"]
NEPTUNE_1991	NEPTUNE_1991-_IDENTITY	218	Global (Neptune)	**The reference ORM for object Neptune.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table I, "Neptune"]
PLUTO_1994	PLUTO_1994_IDENTITY	249	Global (Pluto)	**The reference ORM for object Pluto.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1994	[RIIC, Table I, "Pluto"]
SATURN_1988	SATURN_1988-_IDENTITY	304	Global (Saturn)	**The reference ORM for object Saturn.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table I, "Saturn"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
URANUS_1988	URANUS_1988-_IDENTITY	330	Global (Uranus)	**The reference ORM for object Uranus.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table I, "Uranus"]
VENUS_1991	VENUS_1991_IDENTITY	332	Global (Venus)	**The reference ORM for object Venus.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table I, "Venus"]

Table E.12 — Dynamic planet (non-Earth) ORM specifications

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
JUPITER_INERTIAL	121	Jupiter equatorial inertial	JUPITER_1988	OBRS EQUATORIAL-_INERTIAL Note: Vernal equinox, true of date.	Vicinity of Jupiter	BI_AXIS-_ORIGIN_3D	n/a	Clause 7.5.2
JUPITER_SOLAR-_ECLIPTIC	123	Jupiter solar ecliptic	JUPITER_1988	OBRS SOLAR-_ECLIPTIC	Vicinity of Jupiter	BI_AXIS-_ORIGIN_3D	n/a	[HAPG]
JUPITER_SOLAR-_EQUATORIAL	124	Jupiter solar equatorial	JUPITER_1988	OBRS SOLAR-_EQUATORIAL	Vicinity of Jupiter	BI_AXIS-_ORIGIN_3D	n/a	[CRUS]
JUPITER_SOLAR-_MAG_DIPOLE	125	Jupiter solar magnetic dipole	JUPITER_1988	OBRS SOLAR-_MAGNETIC-_DIPOLE	Vicinity of Jupiter	BI_AXIS-_ORIGIN_3D	n/a	[CRUS], [BHAV]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
JUPITER_SOLAR-_MAG_ECLIPTIC	126	Jupiter solar magnetic ecliptic	JUPITER_1988	OBRS SOLAR-_MAGNETIC-_ECLIPTIC	Vicinity of Jupiter	BI_AXIS-_ORIGIN_3D	n/a	[CRUS]
MARS_INERTIAL	141	Mars equatorial inertial	MARS_2000	OBRS EQUATORIAL-_INERTIAL Note: Vernal equinox, true of date.	Vicinity of Mars	BI_AXIS-_ORIGIN_3D	n/a	Clause 7.5.2
MERCURY-_INERTIAL	147	Mercury equatorial inertial	MERCURY-_1988	OBRS EQUATORIAL-_INERTIAL Note: Vernal equinox, true of date.	Vicinity of Mercury	BI_AXIS-_ORIGIN_3D	n/a	Clause 7.5.2
NEPTUNE-_INERTIAL	169	Neptune equatorial inertial	NEPTUNE-_1991	OBRS EQUATORIAL-_INERTIAL Note: Vernal equinox, true of date.	Vicinity of Neptune	BI_AXIS-_ORIGIN_3D	n/a	Clause 7.5.2
PLUTO_INERTIAL	188	Pluto equatorial inertial	PLUTO_1994	OBRS EQUATORIAL-_INERTIAL Note: Vernal equinox, true of date.	Vicinity of Pluto	BI_AXIS-_ORIGIN_3D	n/a	Clause 7.5.2

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
SATURN_INERTIAL	216	Saturn equatorial inertial	SATURN_1988	OBRS EQUATORIAL-_INERTIAL Note: Vernal equinox, true of date.	Vicinity of Saturn	BI_AXIS-_ORIGIN_3D	n/a	Clause 7.5.2
URANUS_INERTIAL	238	Uranus equatorial inertial	URANUS_1988	OBRS EQUATORIAL-_INERTIAL Note: Vernal equinox, true of date.	Vicinity of Uranus	BI_AXIS-_ORIGIN_3D	n/a	Clause 7.5.2
VENUS_INERTIAL	241	Venus equatorial inertial	VENUS_1991	OBRS EQUATORIAL-_INERTIAL Note: Vernal equinox, true of date.	Vicinity of Venus	BI_AXIS-_ORIGIN_3D	n/a	Clause 7.5.2

Table E.13 — Time-fixed instances of dynamic planet (non-Earth) ORM specifications

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
JUPITER-_MAGNETIC_1993	122	Jupiter magnetic	JUPITER-_1988	1992 OBRS CELESTIOMAGNETIC Note: Object-fixed based on the "eccentric dipoles" of an octopole representation of a sixth degree and order field (O_6) model that was derived from empirical measurements made by the Pioneer 10/11 and Voyager 1/2 spacecraft.	Vicinity of Jupiter	BI_AXIS-_ORIGIN-_3D	n/a	[MFOP, Table 5, "Jupiter"]
NEPTUNE-_MAGNETIC_1993	170	Neptune magnetic	NEPTUNE-_1991	1993 OBRS CELESTIOMAGNETIC Note: Object-fixed based on the "eccentric dipoles" of an octopole representation of an eighth degree field (O_8) model that was derived from empirical measurements made by the Voyager 2 spacecraft.	Vicinity of Neptune	BI_AXIS-_ORIGIN-_3D	n/a	[MFOP, Table 5, "Neptune"]
SATURN-_MAGNETIC_1993	217	Saturn magnetic	SATURN-_1988	1993 OBRS CELESTIOMAGNETIC Note: Object-fixed based on the "eccentric dipoles" of a Z_3 zonal harmonic model that was derived from empirical measurements made by the Pioneer 11 and Voyager 1/2 spacecraft.	Vicinity of Saturn	BI_AXIS-_ORIGIN-_3D	n/a	[MFOP, Table 5, "Saturn"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
URANUS-_MAGNETIC_1993	239	Uranus magnetic	URANUS-_1988	1993 OBRS CELESTIOMAGNETIC Note: Object-fixed based on the "eccentric dipoles" of an Q_3 model that was derived from empirical measurements made by the Voyager 2 spacecraft.	Vicinity of Uranus	BI_AXIS-_ORIGIN-_3D	n/a	[MFOP, Table 5, "Uranus"]

Table E.14 — Time-fixed instances of dynamic planet (non-Earth) ORM reference transformation specifications

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
JUPITER-_MAGNETIC_1993	JUPITER-_MAGNETIC_1993-_VOYAGER	149	Global (Jupiter)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0$, $\omega_2 = \{\theta, \text{deg}\}$: unknown, $\omega_3 = 360^\circ - \{\varphi, \text{deg}\}$: unknown, $\Delta s = 0$	1993	[MFOP, Table 5, "Jupiter"]
NEPTUNE-_MAGNETIC_1993	NEPTUNE-_MAGNETIC_1993-_VOYAGER	219	Global (Neptune)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0$, $\omega_2 = \{\theta, \text{deg}\}$: unknown, $\omega_3 = 360^\circ - \{\varphi, \text{deg}\}$: unknown, $\Delta s = 0$	1993	[MFOP, Table 5, "Neptune"]
SATURN-_MAGNETIC_1993	SATURN-_MAGNETIC_1993-_VOYAGER	305	Global (Saturn)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0$, $\omega_2 = \{\theta, \text{deg}\}$: < 0,1° (page 18 667), $\omega_3 = 360^\circ - \{\varphi, \text{deg}\}$: n/a, $\Delta s = 0$	1993	[MFOP, Table 5, "Saturn"]
URANUS-_MAGNETIC_1993	URANUS-_MAGNETIC_1993-_VOYAGER	331	Global (Uranus)	$\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = 0$, $\omega_2 = \{\theta, \text{deg}\}$: unknown, $\omega_3 = 360^\circ - \{\varphi, \text{deg}\}$: unknown, $\Delta s = 0$	1993	[MFOP, Table 5, "Uranus"]

Table E.15 — Object-fixed satellite ORM specifications

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
ADRASTEA-_2000	4	Adrastea	This is the reference ORM for Adrastea (a satellite of Jupiter).	2000 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Adrastea"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Adrastea, Global	TRI_AXIAL-_ELLIPSOID	ADRASTEA-_2000	[RIIC, Table II, "Adrastea"]
AMALTHEA-_2000	7	Amalthea	This is the reference ORM for Amalthea (a satellite of Jupiter).	2000 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Amalthea"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Amalthea, Global	TRI_AXIAL-_ELLIPSOID	AMALTHEA-_2000	[RIIC, Table II, "Amalthea"]
ARIEL_1988	13	Ariel	This is the reference ORM for Ariel (a satellite of Uranus).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Ariel"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Ariel, Global	SPHERE	ARIEL_1988	[RIIC, Table II, "Ariel"]
ATLAS_1988	15	Atlas	This is the reference ORM for Atlas (a satellite of Saturn).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Atlas"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Atlas, Global	OBLATE-_ELLIPSOID	ATLAS_1988	[RIIC, Table II, "Atlas"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
BELINDA-_1988	20	Belinda	This is the reference ORM for Belinda (a satellite of Uranus).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Belinda"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Belinda, Global	SPHERE	BELINDA_1988	[RIIC, Table II, "Belinda"]
BIANCA_1988	23	Bianca	This is the reference ORM for Bianca (a satellite of Uranus).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Bianca"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Bianca, Global	SPHERE	BIANCA_1988	[RIIC, Table II, "Bianca"]
CALLISTO-_2000	28	Callisto	This is the reference ORM for Callisto (a satellite of Jupiter).	2000 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table II, "Callisto"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Callisto, Global	SPHERE	CALLISTO_2000	[RIIC, Table II, "Callisto"]
CALYPSO-_1988	29	Calypso	This is the reference ORM for Calypso (a satellite of Saturn).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Calypso"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Calypso, Global	TRI_AXIAL-_ELLIPSOID	CALYPSO_1988	[RIIC, Table II, "Calypso"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
CHARON-_1991	36	Charon	This is the reference ORM for Charon (a satellite of Pluto).	1991 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Charon"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Charon, Global	SPHERE	CHARON_1991	[RIIC, Table II, "Charon"]
CORDELIA-_1988	40	Cordelia	This is the reference ORM for Cordelia (a satellite of Uranus).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Cordelia"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Cordelia, Global	SPHERE	CORDELIA_1988	[RIIC, Table II, "Cordelia"]
CRESSIDA-_1988	42	Cressida	This is the reference ORM for Cressida (a satellite of Uranus).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Cressida"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Cressida, Global	SPHERE	CRESSIDA_1988	[RIIC, Table II, "Cressida"]
DEIMOS-_1988	45	Deimos	This is the reference ORM for Deimos (a satellite of Mars).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Deimos"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Deimos, Global	TRI_AXIAL-_ELLIPSOID	DEIMOS_1988	[RIIC, Table II, "Deimos"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
DESDEMONA_1988	46	Desdemona	This is the reference ORM for Desdemona (a satellite of Uranus).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Desdemona"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Desdemona, Global	SPHERE	DESDEMONA_1988	[RIIC, Table II, "Desdemona"]
DESPINA_1991	47	Despina	This is the reference ORM for Despina (a satellite of Neptune).	1991 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Despina"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Despina, Global	SPHERE	DESPINA_1991	[RIIC, Table II, "Despina"]
DIONE_1982	48	Dione	This is the reference ORM for Dione (a satellite of Saturn).	1982 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table II, "Dione"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Dione, Global	SPHERE	DIONE_1982	[RIIC, Table II, "Dione"]
ENCELADUS_1994	61	Enceladus	This is the reference ORM for Enceladus (a satellite of Saturn).	1994 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table II, "Enceladus"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Enceladus, Global	SPHERE	ENCELADUS_1994	[RIIC, Table II, "Enceladus"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
EPIMETHEUS_1988	62	Epimetheus	This is the reference ORM for Epimetheus (a satellite of Saturn).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Epimetheus"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Epimetheus, Global	TRI_AXIAL-_ELLIPSOID	EPIMETHEUS-_1988	[RIIC, Table II, "Epimetheus"]
EUROPA-_2000	66	Europa	This is the reference ORM for Europa (a satellite of Jupiter).	2000 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table II, "Europa"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Europa, Global	SPHERE	EUROPA_2000	[RIIC, Table II, "Europa"]
GALATEA-_1991	71	Galatea	This is the reference ORM for Galatea (a satellite of Neptune).	1991 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Galatea"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Galatea, Global	SPHERE	GALATEA_1991	[RIIC, Table II, "Galatea"]
GANYMEDE-_2000	73	Ganymede	This is the reference ORM for Ganymede (a satellite of Jupiter).	2000 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table II, "Ganymede"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Ganymede, Global	SPHERE	GANYMEDE-_2000	[RIIC, Table II, "Ganymede"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
HELENE-_1992	93	Helene	This is the reference ORM for Helene (a satellite of Saturn).	1992 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Helene"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Helene, Global	TRI_AXIAL-_ELLIPSOID	HELENE_1992	[RIIC, Table II, "Helene"]
IAPETUS-_1988	103	Iapetus	This is the reference ORM for Iapetus (a satellite of Saturn).	1988 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table II, "Iapetus"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Iapetus, Global	SPHERE	IAPETUS_1988	[RIIC, Table II, "Iapetus"]
IO_2000	112	Io	This is the reference ORM for Io (a satellite of Jupiter).	2000 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Io"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Io, Global	SPHERE	IO_2000	[RIIC, Table II, "Io"]
JANUS_1988	116	Janus	This is the reference ORM for Janus (a satellite of Saturn).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Janus"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Janus, Global	TRI_AXIAL-_ELLIPSOID	JANUS_1988	[RIIC, Table II, "Janus"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
JULIET_1988	119	Juliet	This is the reference ORM for Juliet (a satellite of Uranus).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Juliet"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Juliet, Global	SPHERE	JULIET_1988	[RIIC, Table II, "Juliet"]
LARISSA-_1991	132	Larissa	This is the reference ORM for Larissa (a satellite of Neptune).	1991 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Larissa"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Larissa, Global	OBLATE-_ELLIPSOID	LARISSA_1991	[RIIC, Table II, "Larissa"]
METIS_2000	148	Metis	This is the reference ORM for Metis (a satellite of Jupiter).	2000 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Metis"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Metis, Global	SPHERE	METIS_2000	[RIIC, Table II, "Metis"]
MIMAS_1994	150	Mimas	This is the reference ORM for Mimas (a satellite of Saturn).	1994 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table II, "Mimas"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Mimas, Global	SPHERE	MIMAS_1994	[RIIC, Table II, "Mimas"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
MIRANDA-_1988	152	Miranda	This is the reference ORM for Miranda (a satellite of Uranus).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Miranda"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Miranda, Global	SPHERE	MIRANDA_1988	[RIIC, Table II, "Miranda"]
MOON_1991	160	Moon	This is the reference ORM for Moon (a satellite of Earth).	1991 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Moon"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Moon, Global	SPHERE	MOON_1991	[RIIC, Table II, "Moon"]
NAIAD_1991	166	Naiad	This is the reference ORM for Naiad (a satellite of Neptune).	1991 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Naiad"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Naiad, Global	SPHERE	NAIAD_1991	[RIIC, Table II, "Naiad"]
OBERON-_1988	174	Oberon	This is the reference ORM for Oberon (a satellite of Uranus).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Oberon"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Oberon, Global	SPHERE	OBERON_1988	[RIIC, Table II, "Oberon"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
OPHELIA-_1988	179	Ophelia	This is the reference ORM for Ophelia (a satellite of Uranus).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Ophelia"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Ophelia, Global	SPHERE	OPHELIA_1988	[RIIC, Table II, "Ophelia"]
PAN_1991	181	Pan	This is the reference ORM for Pan (a satellite of Saturn).	1991 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Pan"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Pan, Global	SPHERE	PAN_1991	[RIIC, Table II, "Pan"]
PANDORA-_1988	182	Pandora	This is the reference ORM for Pandora (a satellite of Saturn).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Pandora"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Pandora, Global	TRI_AXIAL-_ELLIPSOID	PANDORA_1988	[RIIC, Table II, "Pandora"]
PHOBOS-_1988	183	Phobos	This is the reference ORM for Phobos (a satellite of Mars).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Phobos"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Phobos, Global	TRI_AXIAL-_ELLIPSOID	PHOBOS_1988	[RIIC, Table II, "Phobos"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
PHOEBE-_1988	184	Phoebe	This is the reference ORM for Phoebe (a satellite of Saturn).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Phoebe"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Phoebe, Global	SPHERE	PHOEBE_1988	[RIIC, Table II, "Phoebe"]
PORTIA_1988	191	Portia	This is the reference ORM for Portia (a satellite of Uranus).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Portia"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Portia, Global	SPHERE	PORTIA_1988	[RIIC, Table II, "Portia"]
PROMETHEUS_1988	193	Prometheus	This is the reference ORM for Prometheus (a satellite of Saturn).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Prometheus"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Prometheus, Global	TRI_AXIAL-_ELLIPSOID	PROMETHEUS-_1988	[RIIC, Table II, "Prometheus"]
PROTEUS-_1991	194	Proteus	This is the reference ORM for Proteus (a satellite of Neptune).	1991 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Proteus"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Proteus, Global	TRI_AXIAL-_ELLIPSOID	PROTEUS_1991	[RIIC, Table II, "Proteus"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
PUCK_1988	197	Puck	This is the reference ORM for Puck (a satellite of Uranus).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Puck"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Puck, Global	SPHERE	PUCK_1988	[RIIC, Table II, "Puck"]
RHEA_1988	204	Rhea	This is the reference ORM for Rhea (a satellite of Saturn).	1988 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table II, "Rhea"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Rhea, Global	SPHERE	RHEA_1988	[RIIC, Table II, "Rhea"]
ROSALIND-_1988	207	Rosalind	This is the reference ORM for Rosalind (a satellite of Uranus).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Rosalind"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Rosalind, Global	SPHERE	ROSALIND_1988	[RIIC, Table II, "Rosalind"]
TELESTO-_1988	225	Telesto	This is the reference ORM for Telesto (a satellite of Saturn).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Telesto"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Telesto, Global	TRI_AXIAL-_ELLIPSOID	TELESTO_1988	[RIIC, Table II, "Telesto"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
TETHYS-_1991	227	Tethys	This is the reference ORM for Tethys (a satellite of Saturn).	1991 The x-positive xz-half-plane as determined by an observable fixed surface feature and approximated by an ephemeris as specified in {Table II, "Tethys"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Tethys, Global	SPHERE	TETHYS_1991	[RIIC, Table II, "Tethys"]
THALASSA-_1991	228	Thalassa	This is the reference ORM for Thalassa (a satellite of Neptune).	1991 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Thalassa"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Thalassa, Global	SPHERE	THALASSA_1991	[RIIC, Table II, "Thalassa"]
THEBE_2000	229	Thebe	This is the reference ORM for Thebe (a satellite of Jupiter).	2000 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Thebe"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Thebe, Global	OBLATE-_ELLIPSOID	THEBE_2000	[RIIC, Table II, "Thebe"]
TITAN_1982	231	Titan	This is the reference ORM for Titan (a satellite of Saturn).	1982 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Titan"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Titan, Global	SPHERE	TITAN_1982	[RIIC, Table II, "Titan"]

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
TITANIA_1988	232	Titania	This is the reference ORM for Titania (a satellite of Uranus).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Titania"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Titania, Global	SPHERE	TITANIA_1988	[RIIC, Table II, "Titania"]
TRITON_1991	235	Triton	This is the reference ORM for Triton (a satellite of Neptune).	1991 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Triton"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Triton, Global	SPHERE	TRITON_1991	[RIIC, Table II, "Triton"]
UMBRIEL-_1988	236	Umbriel	This is the reference ORM for Umbriel (a satellite of Uranus).	1988 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table II, "Umbriel"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Umbriel, Global	SPHERE	UMBRIEL_1988	[RIIC, Table II, "Umbriel"]

Table E.16 — Object-fixed satellite ORM reference transformation specifications

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
ADRASTEA-_2000	ADRASTEA_2000-_IDENTITY	10	Global (Adrastea)	**The reference ORM for object Adrastea.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table II, "Adrastea"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
AMALTHEA-_2000	AMALTHEA_2000-_IDENTITY	14	Global (Amalthea)	**The reference ORM for object Amalthea.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table II, "Amalthea"]
ARIEL_1988	ARIEL_1988_IDENTITY	30	Global (Ariel)	**The reference ORM for object Ariel.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Ariel"]
ATLAS_1988	ATLAS_1988_IDENTITY	32	Global (Atlas)	**The reference ORM for object Atlas.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Atlas"]
BELINDA_1988	BELINDA_1988-_IDENTITY	38	Global (Belinda)	**The reference ORM for object Belinda.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Belinda"]
BIANCA_1988	BIANCA_1988-_IDENTITY	41	Global (Bianca)	**The reference ORM for object Bianca.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Bianca"]
CALLISTO_2000	CALLISTO_2000-_IDENTITY	46	Global (Callisto)	**The reference ORM for object Callisto.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table II, "Callisto"]
CALYPSO_1988	CALYPSO_1988-_IDENTITY	47	Global (Calypso)	**The reference ORM for object Calypso.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table II, "Calypso"]
CHARON_1991	CHARON_1991-_IDENTITY	54	Global (Charon)	**The reference ORM for object Charon.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table II, "Charon"]
CORDELIA-_1988	CORDELIA_1988-_IDENTITY	58	Global (Cordelia)	**The reference ORM for object Cordelia.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Cordelia"]
CRESSIDA-_1988	CRESSIDA_1988-_IDENTITY	60	Global (Cressida)	**The reference ORM for object Cressida.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Cressida"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
DEIMOS_1988	DEIMOS_1988-_IDENTITY	63	Global (Deimos)	**The reference ORM for object Deimos.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Deimos"]
DESDEMONA-_1988	DESDEMONA_1988-_IDENTITY	64	Global (Desdemona)	**The reference ORM for object Desdemona.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table II, "Desdemona"]
DESPINA_1991	DESPINA_1991-_IDENTITY	65	Global (Despina)	**The reference ORM for object Despina.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table II, "Despina"]
DIONE_1982	DIONE_1982_IDENTITY	66	Global (Dione)	**The reference ORM for object Dione.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table II, "Dione"]
ENCELADUS-_1994	ENCELADUS_1994-_IDENTITY	72	Global (Enceladus)	**The reference ORM for object Enceladus.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1994	[RIIC, Table II, "Enceladus"]
EPIMETHEUS-_1988	EPIMETHEUS_1988-_IDENTITY	73	Global (Epimetheus)	**The reference ORM for object Epimetheus.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table II, "Epimetheus"]
EUROPA_2000	EUROPA_2000-_IDENTITY	77	Global (Europa)	**The reference ORM for object Europa.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table II, "Europa"]
GALATEA_1991	GALATEA_1991-_IDENTITY	98	Global (Galatea)	**The reference ORM for object Galatea.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table II, "Galatea"]
GANYMEDE-_2000	GANYMEDE_2000-_IDENTITY	100	Global (Ganymede)	**The reference ORM for object Ganymede.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table II, "Ganymede"]
HELENE_1992	HELENE_1992-_IDENTITY	121	Global (Helene)	**The reference ORM for object Helene.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1992	[RIIC, Table II, "Helene"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
IAPETUS_1988	IAPETUS_1988-_IDENTITY	127	Global (Iapetus)	**The reference ORM for object Iapetus.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table II, "Iapetus"]
IO_2000	IO_2000_IDENTITY	139	Global (Io)	**The reference ORM for object Io.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table II, "Io"]
JANUS_1988	JANUS_1988_IDENTITY	144	Global (Janus)	**The reference ORM for object Janus.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table II, "Janus"]
JULIET_1988	JULIET_1988_IDENTITY	147	Global (Juliet)	**The reference ORM for object Juliet.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table II, "Juliet"]
LARISSA_1991	LARISSA_1991-_IDENTITY	155	Global (Larissa)	**The reference ORM for object Larissa.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table II, "Larissa"]
METIS_2000	METIS_2000_IDENTITY	171	Global (Metis)	**The reference ORM for object Metis.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table II, "Metis"]
MIMAS_1994	MIMAS_1994_IDENTITY	173	Global (Mimas)	**The reference ORM for object Mimas.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1994	[RIIC, Table II, "Mimas"]
MIRANDA_1988	MIRANDA_1988-_IDENTITY	176	Global (Miranda)	**The reference ORM for object Miranda.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Miranda"]
MOON_1991	MOON_1991_IDENTITY	184	Global (Moon)	**The reference ORM for object Moon.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table II, "Moon"]
NAIAD_1991	NAIAD_1991_IDENTITY	216	Global (Naiad)	**The reference ORM for object Naiad.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table II, "Naiad"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
OBERON_1988	OBERON_1988-_IDENTITY	223	Global (Oberon)	**The reference ORM for object Oberon.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Oberon"]
OPHELIA_1988	OPHELIA_1988-_IDENTITY	236	Global (Ophelia)	**The reference ORM for object Ophelia.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Ophelia"]
PAN_1991	PAN_1991_IDENTITY	243	Global (Pan)	**The reference ORM for object Pan.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table II, "Pan"]
PANDORA-_1988	PANDORA_1988-_IDENTITY	244	Global (Pandora)	**The reference ORM for object Pandora.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Pandora"]
PHOBOS_1988	PHOBOS_1988-_IDENTITY	245	Global (Phobos)	**The reference ORM for object Phobos.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Phobos"]
PHOEBE_1988	PHOEBE_1988-_IDENTITY	246	Global (Phoebe)	**The reference ORM for object Phoebe.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Phoebe"]
PORTIA_1988	PORTIA_1988-_IDENTITY	252	Global (Portia)	**The reference ORM for object Portia.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Portia"]
PROMETHEUS-_1988	PROMETHEUS_1988-_IDENTITY	254	Global (Prometheus)	**The reference ORM for object Prometheus.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Prometheus"]
PROTEUS_1991	PROTEUS_1991-_IDENTITY	255	Global (Proteus)	**The reference ORM for object Proteus.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table II, "Proteus"]
PUCK_1988	PUCK_1988_IDENTITY	267	Global (Puck)	**The reference ORM for object Puck.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Puck"]

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
RHEA_1988	RHEA_1988_IDENTITY	274	Global (Rhea)	**The reference ORM for object Rhea.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Rhea"]
ROSALIND_1988	ROSALIND_1988_IDENTITY	277	Global (Rosalind)	**The reference ORM for object Rosalind.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Rosalind"]
TELESTO_1988	TELESTO_1988_IDENTITY	313	Global (Telesto)	**The reference ORM for object Telesto.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Telesto"]
TETHYS_1991	TETHYS_1991_IDENTITY	315	Global (Tethys)	**The reference ORM for object Tethys.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table II, "Tethys"]
THALASSA_1991	THALASSA_1991_IDENTITY	316	Global (Thalassa)	**The reference ORM for object Thalassa.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table II, "Thalassa"]
THEBE_2000	THEBE_2000_IDENTITY	317	Global (Thebe)	**The reference ORM for object Thebe.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	2000	[RIIC, Table II, "Thebe"]
TITAN_1982	TITAN_1982_IDENTITY	320	Global (Titan)	**The reference ORM for object Titan.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Titan"]
TITANIA_1988	TITANIA_1988_IDENTITY	321	Global (Titania)	**The reference ORM for object Titania.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Titania"]
TRITON_1991	TRITON_1991_IDENTITY	328	Global (Triton)	**The reference ORM for object Triton.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1991	[RIIC, Table II, "Triton"]
UMBRIEL_1988	UMBRIEL_1988_IDENTITY	329	Global (Umbriel)	**The reference ORM for object Umbriel.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1988	[RIIC, Table II, "Umbriel"]

Table E.17 — Time-fixed instances of dynamic satellite ORM specifications

In this International Standard there are no time-fixed instances of dynamic satellite ORM specifications, therefore this table is empty.

Table E.18 — Time-fixed instances of dynamic satellite ORM reference transformation specifications

In this International Standard there are no time-fixed instances of dynamic satellite ORM reference transformation specifications, therefore this table is empty.

Table E.19 — Stellar ORM specifications

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
SUN_1992	222	Sun	This is the reference ORM for the Sun (a star).	1992 The x-positive xz-half-plane as determined by an ephemeris as specified in {Table I, "Sun"}, with its associated accuracy as specified in {Section 2, paragraph 5}.	Sun, Global	SPHERE	SUN_1992	[RIIC, Table I, "Sun"]

Table E.20 — Stellar ORM reference transformation specifications

ORM label	RT label	RT code	RT region	RT parameters	Date published	References
SUN_1992	SUN_1992-_IDENTITY	310	Global (Sun)	**The reference ORM for object Sun.** $\Delta x = \Delta y = \Delta z = 0$, $\omega_1 = \omega_2 = \omega_3 = 0''$, $\Delta s = 0$.	1992	[RIIC, Table I, "Sun"]

Table E.21 — Dynamic stellar ORM specifications

ORM label	ORM code	Published name	Reference ORM	Binding information	Region	ORMT label	RD parameterization	References
HELIO_ARIES-_ECLIPTIC-_J2000r0	94	Heliocentric Aries ecliptic, J2000.0	SUN_1992	OBRS HELIOCENTRIC_ARIES-_ECLIPTIC Note: First point of Aries as of 2000 Jan 1 11:58:55.816 UTC.	Solar system	BI_AXIS-_ORIGIN-_3D	n/a	[HAPG]
HELIO_ARIES-_ECLIPTIC-_TRUE_OF-_DATE	95	Heliocentric Aries ecliptic, true of date	SUN_1992	OBRS HELIOCENTRIC_ARIES-_ECLIPTIC Note: First point of Aries, true of date.	Solar system	BI_AXIS-_ORIGIN-_3D	n/a	[HAPG]
HELIO_EARTH-_ECLIPTIC	96	Heliocentric Earth ecliptic	SUN_1992	OBRS HELIOCENTRIC_PLANET-_ECLIPTIC	Solar system	BI_AXIS-_ORIGIN-_3D	n/a	[HAPG]
HELIO_EARTH-_EQUATORIAL	97	Heliocentric Earth equatorial	SUN_1992	OBRS HELIOCENTRIC_PLANET-_EQUATORIAL	Solar system	BI_AXIS-_ORIGIN-_3D	n/a	[HAPG]

Table E.22 — Time-fixed instances of dynamic stellar ORM specifications

In this International Standard there are no time-fixed instances of dynamic stellar ORM specifications, therefore this table is empty.

Table E.23 — Time-fixed instances of dynamic stellar ORM reference transformation specifications

In this International Standard there are no time-fixed instances of dynamic stellar ORM reference transformation specifications, therefore this table is empty.