ISO Geodetic Registry

Item class GeodeticDatum

Name International Terrestrial Reference Frame 2020

Item statusVALIDIdentifier801

Alias IERS Terrestrial Reference Frame 2020

Alias ITRF2020

Information source Title ITRF2020 is available on line

Author Z. Altamimi

Publisher International Earth Rotation and Reference

Systems Service (IERS)

Publication date 2022-04-19 Series/Journal name IERS Message

Issue identification 456

Other citation details https://datacenter.iers.org/data/2/

message_456.txt (accessed 2022-04-19)

Information source Title ITRF2020

Author International Earth Rotation and Reference

Systems Service (IERS)

Publisher Institut National de l'Information Geographique et

Forestiere (IGN)

Revision date 2022-04-15

Other citation details Webpage: https://itrf.ign.fr/en/solutions/itrf2020

(accessed 2022-04-18)

Data source ISO Geodetic Registry

Remarks Replaces ITRF2014. This is a purely Cartesian reference frame with no

ellipsoid defined. GRS80 is the ellipsoid recommended by the IAG and

IERS.

Anchor definition Realisation of the IERS Terrestrial Reference System (ITRS) at

reference epoch 2015.0. Origin of the long-term frame is defined using the concept of internal constraints such that there are zero translation parameters at epoch 2015.0 and zero translation rates between the ITRF2020 and the ILRS SLR long-term frame over the time-span 1993.0-2021.0. Scale of the long-term frame is defined using the concept of internal constraints such that there are zero scale and scale rate between ITRF2020 and the scale and scale rate averages of VLBI selected sessions up to 2013.75 and SLR weekly solutions covering the time-span 1997.7-2021.0. Orientation is defined such that there are zero rotation parameters at epoch 2015.0 and zero rotation rates between the ITRF2020 and ITRF2014. The datum is defined by a set of 3 dimensional Cartesian station coordinates, velocities, annual and semi-annual seasonal terms, and post-seismic deformation models

given by the citations.

Release date 2022-04-15 Coordinate Reference Epoch 2015.0

Scope Spatial positioning

Ellipsoid GRS 1980
Prime Meridian Greenwich

Extent

Description World

Geographic Bounding Box West-bound longitude -180.0

North-bound latitude 90.0 East-bound longitude 180.0

ISO Geodetic Registry

Item class Ellipsoid

Name GRS 1980

Item status VALID
Identifier 27

Alias Geodetic Reference System 1980

Alias GRS1980
Alias IAG GRS80

Alias International 1979

Alias GRS80

Information source Title Geodetic Reference System 1980

Author H. Moritz

Publisher Springer International Publishing

Publication date 2003-03

Series/Journal name Journal of Geodesy Issue identification Volume 74, No. 1

Page 128–162

Information source Title Geodetic Reference System 1980

Author H. Moritz

Publisher International Association of Geodesy

Publication date 1984

Series/Journal name Bulletin Geodesique Issue identification Volume 58, No. 3

Page 395-405

Data source ISO Geodetic Registry

Remarks Adopted by IUGG 1979 Canberra. Inverse flattening is derived from

geocentric gravitational constant GM = 3986005e8 m*m*m/s/s, dynamic form factor J2 = 108263e-8 and Earth's angular velocity =

7292115e-11 rad/s.

Semi-major axis 6378137.0 m
Inverse flattening 298.257222101 m

ISO Geodetic Registry

Item class PrimeMeridian

Name Greenwich

Item status VALID
Identifier 25

Alias Zero meridian

Information source Title Why the Greenwich meridian moved

Author S. Malys, J.H. Seago, N.K. Pavlis, P.K.

Seidelmann, G.H. Kaplan

Publisher Springer International Publishing

Publication date 2015-12

Series/Journal name Journal of Geodesy Issue identification Volume 89, No. 12

Page 1263–1272

Information source Title IERS Conventions (2010)

Author G. Petit, B.J. Luzum (eds)

Publisher Verlag des Bundesamts fur Kartographie und

Geodasie

Publication date 2010

Edition date

Series/Journal name IERS Technical Notes

Issue identification 36.0

Other citation details ISSN: 1019-4568

Data source ISO Geodetic Registry

Greenwich longitude 0.0 °