

Space Studies of the Earth-Moon System, Planets, and Small Bodies of the Solar System (B)  
Reference Frames for Applications in Geosciences (REFAG2018) (B2.1)

## **ITRF: THREE DECADES OF RESEARCH AND DEVELOPMENT, CURRENT STATUS AND FUTURE PLANS**

Zuheir Altamimi, zuheir.altamimi@ign.fr

Institut National de l'Information Géographique et Forestière, Laboratoire LAREG, Paris  
Cedex 13, France

Xavier Collilieux, xavier.collilieux@ensg.ign.fr

Institut Géographique National, Marne-La-Vallée, France

Paul Rebischung, paul.rebischung@ign.fr

Institut National de l'Information Géographique et Forestière, Laboratoire LAREG, Paris  
Cedex 13, France

Laurent Métivier, laurent.metivier@ign.fr

Institut National de l'Information Géographique et Forestière, Laboratoire LAREG, Paris,  
France

Kristel Chanard, kristel.chanard@ign.fr

Institut National de l'Information Géographique et Forestière, Paris Cedex 13, France

On the occasion of the thirtieth anniversary of the International Earth Rotation and Reference Systems Service (IERS), this paper reviews the progress that has been made in the development of the International Terrestrial Reference Frame (ITRF). A particular focus will be devoted to (1) the frame definition (origin, scale, orientation and their time evolution) and how it is maintained over time, (2) technique systematic errors and their impact on the frame definition, (3) the possible ways of dealing with station non-linear motions, and (4) the level of agreement between techniques at co-location sites. Improvements planned for the future ITRF releases will be outlined taking into account user needs in both operational geodesy and Earth science applications.