



Theoretical background of Terrestrial Reference Systems

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Terrestrial Reference Systems and their realizations as frames are one of the fundamental concepts of Geodesy. They are also of deep concern for Geosciences in general and numerous technologies (navigation, geo-referencing. . .). The paper is an overview of currently accepted models as well as open issues related to the topic. Three major levels are considered. The first is the general approach, from newtonian to relativistic underlying theory. The second is devoted to the physical models for terrestrial reference systems and frames. The last is considering numerical and computational aspects, related estimation models. Various links to present activities in the frame of the IERS Conventions and IAG ad hoc Working group are also given.