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Assessment of Reference Frame Stability trough offset detection in GPS coordinate time series

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Abstract

The subject of this paper is to investigate the contribution of GPS coordinate time series to development of International Terrestrial Reference Frame (ITRF). The analysis of the GPS data sets should not only detect possible trends, but should also discover offsets or discontinuities caused by natural processes like sudden crustal movements and earthquakes, as well as those caused by artificial events and man-made activities.
This kind of analysis is important because it contributes to understanding of Reference Frame stability and enables deeper insight into local, regional and global geodynamical processes. The paper describes the strategy and some results obtained by analysis of data from Reference GNSS stations located in Republic of Serbia.