Site Performance of Permanent GPS Station

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The improvements in the technology have brought forth great developments in the geodetic measurements. The Global Positioning System (GPS) has played greatest role in the geodetic studies from last two decades, after it was opened out completely for exploring its uses in scientific fields. To study the kinematics of the Indian Plates, Indian Institute of Geomagnetism (IIG) has established several permanent GPS sites in various parts of the country for monitoring it in a more regularly. These continous observed GPS (CGPS) also serve as good network to improve the relative positioning of regional observational network.

The measured GPS position are bound to have been contaminated with several errors and thus our understanding of these errors play a major role in improving their estimated values. Certain site specific errors are redundantly removed or reduced at the post processing stage. But, still the time series thus obtained are undoubtedly with errors. To utilize the time-series for geophysical studies, the positional estimates have to be improved to the level of accuracy of mm/yr for the Indian context.

The various tools available as public ware have been used to test the performance of one of the sites, monument stability and it is found to be within the limits permissible for the usage with the available set of data. Finally, the long term repeatability were estimated and found to be closer to the most of the permanent GPS sites being operated around the world.