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Ionospheric biases correction for coordinates derived from GPS single point positioning

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Abstract

Most GPS users employ low cost receivers. These receivers do not allow users to record the pseudorange that they observe, but the computed coordinates. This work presents an original and simple method to correct ionospheric biases introduced in GPS signals. The originality of this method is based on the fact that no pseudorange is needed to correct the biases, only the calculated coordinates are used. This distinguishes this method from other classic alternatives. This paper evaluates the efficiency of the method with the use of real data.

Keywords

GNSS;Global Positioning System;singlepoint positioning;ionospheric biases correction

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References

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KEYWORDS

Central Italy Earthquake GPS Historical seismology Ionosphere Irpinia earthquake Italy Mt. Etna Seismic hazard Seismic hazard assessment Seismology UN/IDNDR earthquake earthquakes historical earthquakes ionosphere magnetic anomalies paleoseismology seismic hazard seismicity seismology