DETERMINATION OF LEAST OBSERVATION TIME CLASSIFIED BY BASELINE GRADE ACCORDING TO GPS SATELLITE COMBINATION

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ABSTRACT

In the 20th century, there was a remarkable progress in survey instrument and technology powered by the development of scientific technologies. Precision positioning is now possible thanks to GPS (Global Positioning System), three dimensional positioning method using satellites. GPS receiver installed in the observation point and at least four satellites determine the three dimensional coordinates, therefore, disposition and number of the satellites and the baseline may affect the accuracy, and observational error often occurs.

This research is to see how earth surface position error changes according to the number and combination of observation satellites through relative location observation method. Least square method is used for position error analysis. It is to analyze what is the minimum observation time when limiting the position error.

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