Developpement d'une Nouvelle Methode de Traitement des Observations GPS

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Key words:

SUMMARY

The most important step in global positioning system cycle is observations processing. GPS positioning accuracy is directly related to this step.

Differential processing is the common method used in GPS data processing, because it offers an appropriate accuracy to geodetic applications. This method allows also an efficient errors processing. However, it causes some technical constraints and exigencies. In order to resolve those problems, and to eliminate systematic errors, an alternative method called "Transformed observables method" was created and developed.

In this study, the purpose was a software development under C++ Builder, using existing FORTRAN sources code witch are developed by T. Tachallaït and J.-G. Leclerc in Laval University (Canada).

The developed software (IAVGPS) is based on pseudo-ranges and phases observations exploitation, using the transformed observables method. It allows network processing point by point, and calculates coordinates of each point in WGS84 coordinate system .

The study also includes an experimental study and a comparison between Ashtech's WinPrism and IAVGPS.

The comparative survey permitted to conclude that the IAVGPS application determines the position of every station, while using phases observations, with a gap better than 76m in relation to the conventional determination.

CONTACTS

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