

THE DEVELOPMENT OF DIGITAL MAP USING GPS IN 3-DIMENTIONAL HIGHWAY DESIGN

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ABSTRACT

Now, car navigation system is known the position of car to using GPS surveying. And for getting the delicate position of car, it is using gyroscope or map matching method. But, This method give rise to cost of car navigation equipment. Recently, car digital map is made by 2-dimentional plane digital map. 2-dimentional digital map not enough showed the reality of object to user. Therefore, it is positively necessary to making 3-dimentional car digital map for CNS, ITS and GIS. Analysis of object is used not improve of precision and service of object. And it has limit to amount of object database. This research will show the efficiency that we get the WGS84 data to using GPS absolute position decision and make the 3-dimentional car digital map to using GLT for improving efficiency. This research is used to MRE method, Standard Molodensky Method, 7-parameter Method in the precision Coordinate Transformation method and Gauss-Kruger Projection for getting the plane coordinate. And we developed to the GLT algorithm for getting the vertical Z coordinate.

Authors will expect that it is possible to decide of car traveling speed and to represent of simulation car traveling because of output the X, Y, Z cartesian coordinates and automatic transfer to digital map.

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