

عنوان مقاله:

RTDGPS Implementation by Online Prediction of GPS Position Components Error Using GA-ANN Model

محل انتشار:

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خلاصه مقاله:

If both Reference Station (RS) and navigational device in Differential Global Positioning System (DGPS) receive signals from the same satellite, RS Position Components Error (RPCE) can be used to compensate for navigational device error. This research used hybrid method for RPCE prediction which was collected by a low-cost GPS receiver. It is a combination of Genetic Algorithm (GA) computing and Artificial Neural Network (ANN). GA was used for weight optimization and RS and Mobile Station (MS) were implemented by the software. The experimental results demonstrated which GA-ANN had great approximation ability and suitability in prediction; GA-ANNs prediction' RMS errors were less than 0.12 m. The simulation results with real data showed that position components' RMS errors in MS were less than 0.51 m after RPCE prediction.

کلمات کلیدی:

DGPS ANN RPCE Prediction GA

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