MATLAB Simulations based Identification Model for Various Points in Global Positioning System

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Authors:
Sekath Varma, K. Nithiyananthan

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Abstract

The main aim of this research work is to propose a probabilistic methodology to estimate the location of point P in global positioning system and to simulate it using MATLAB. The GPS receiver requires a minimum of four satellites to provide a three-dimensional (3D) fix and three satellites to provide a two-dimensional (2D) fix. A three-dimensional (3D) fix means GPS can locate its latitude, longitude and altitude, while a two-dimensional (2D) fix means GPS locates only its latitude and longitude. The focuses with "di" separations from every satellite i, characterizes a circle in the space accepting the earth to be round. The crossing point of these two circles (the earth and circle characterized by every one of the focuses with "di" separations from every satellite "i") is a circle on the world's surface. The circles shaped with a satellite and earth meet precisely at one point P. It is difficult to decide the "di" removes precisely, along these lines the circles don't meet at one accurate point. Every circle meets at two unique focuses. Subsequently, it has been recognized that the crossing point of the circles point P lies around there, however hard to find and distinguish the definite separation point P. The proposed MATLAB simulation model has been able to locate various points in Global Positioning System.
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accurately.

References


Index Terms

Computer Science Image Processing

Keywords

GPS, MATLAB simulations, Receiver, Satellites, GPS control station, Trilateration.