

عنوان مقاله:

Synchronization and Registration of an Optical-Inertial Multi-Sensor Navigation System

محل انتشار:

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نویسندگان:

Ali Soroush - Master Student, Sharif University of Technology

Mohammad Akbar - Master Student, Sharif University of Technology

Hasan Salarieh - Assistant Professor, Sharif University of Technology

Farzam Farahmand - Professor, Sharif University of Technology

خلاصه مقاله:

Multi-sensor tracking is widely used for augmentation of tracking accuracy using data fusion. A basic requirement for such applications is the real time temporal synchronization and spatial registration of two sensory data. In this study a new method for time and space coordination of two tracking sensor measurements has been presented. For spatial registration we used a body coordinate system and then applied the effect of the level arm. The time synchronization was done based on least mean square (LMS) error method. This method was implemented to synchronize the position and orientation of an object using Inertial (1IMU) and Optical (Optotrak) tracking systems. The results of synchronized data were validated with measurements of Optical tracking system and the mean error of synchronized Euler angles, were less than 0.28 degree.

کلمات کلیدی:

Synchronization, Tracking system, IMU, Optotrak

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