

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
Poster Session (P)

Author: Ms. Huan Che
China, xiaoan1127@sina.com

Mr. Huan Liu
China, liu_huan@126.com

Mr. Xinchun Ji
China, xinchun_ji@163.com

Ms. Chunqing Hou
China, chunqing_hou@126.com

THE GPS/INS INTEGRATED NAVIGATION METHOD SUITABLE FOR THE SATELLITE SIGNALS
BLOCKING SITUATION**Abstract**

When the satellite signals of GPS are blocked, the number of the visible satellites will be less than 4, and the continuous locating cannot be realized with the usually adopted positioning methods of GPS Navigation. This problem will affect the reliability of the satellite navigation equipments, which are used in the civil aviation, UAV, missile and so on. The GPS/INS integrated navigation method based on EKF is proposed in the paper. In this method the optimized value of the filter parameters can be got by the theoretical calculating, then, the real data of satellite receiver and the aided data of INS will be processed in the integrated navigation filter, and finally, the credible positioning results can be calculated. The experimental results show that, when the number of visible satellites is 3 or 2, the continuous locating can be realized with the proposed method and the positioning accuracy is similar with that when the number of visible satellites is 4.