PERSON MOVEMENT MONITORING WITH AN L1 ONLY GPS RECEIVER

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Abstract: Personal navigation and guidance for blind person is a valuable and difficult task. Not only the vocal interface and map information, but the positioning also plays an important role. Among many configurations, Global Navigation Satellite System (GNSS) based such as GPS, are featured with economic signal and wide availability. In this study, a single frequency GPS receiver is studied for its dynamic performance. The positioning accuracy and reliability of a L1 only GPS receiver is field tested in this experiment. Study items include SPS and PPP with both stationary and moving mode in walking and bicycling observations. Post-processed kinematic differential GPS is utilized as the reference. It is found while the SPS has the largest uncertainty as expected, PPP accomplished significant improvement.

KEY WORDS: Single Frequency, Precise Point Positioning, Assisted Street Navigation