Geophysical Research Abstracts,
Vol. 11, EGU2009-3613-1, 2009
EGU General Assembly 2009

kinematic velocities determination for Low Earth Orbit (LEO) satellite via kalman filter based on Global Positioning System (GPS) Receivers data

S. Farzaneh (1), S. Mirboroon (2), and T. Yousefzadeh (1)

(1) Department of surveying and geomatics engineering, University of Tehran, Tehran, Iran, (2) Department of geodesy and geomatics engineering, Khaje Nasir Toosi University, Tehran, Iran

GPS receivers in LEO satellite record a large amount of information including satellite position in sequence times. These data could be used as a base for earth gravity field recovery in energy integral method. Although we need corresponding velocities in the satellite positions to calculate (achieve) kinetic energy.
In this paper we propose to determine LEO satellite dynamic velocity with extended Kalman filter and Winner dynamic model (CWP4).

Keyword: GPS receivers, LEO satellite, Extended kalman filter, Kinematic Velocity