Geophysical Research Abstracts, Vol. 9, 06956, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-06956

Total Electron Content (TEC) estimations from very low orbit satellite GOCE

M. Epifani (1), A. Tassa (2), G. Vingione (2,4), A. Buongiorno (3), E. Monjoux (3)

(1) ACS S.p.A., Roma, Italy, (2) Serco S.p.A., Frascati, Italy, (3) ESA-ESRIN, Frascati, Italy, (4) Department of Aerospace Engineering Faculty of Engineering - Second University of Naples, Aversa, Italy

The propagation of GPS signals through the ionosphere changes according to frequency and to the ionization degree. Ionospheric Total Electron Content (TEC) along the ray paths of the LEO-to-GPS satellites can be obtained from the two-frequencies GPS receiver measurements.

The TEC can eventually be inverted taking into account the satellites geometry, in order to obtain vertical electron density profiles.

GOCE data could be particularly interesting in this regard since the satellite will be flying at an orbit which is well below the one of the LEO satellites normally used for this purpose ($\sim$250 km height, which corresponds to the bottom side of the peak density height of the F2 region).