



Time-variable vertical deformations determined from GRACE and in-situ GPS data

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The problem of vertical crustal deformations occurring at seasonal timescales in response to soil moisture load is investigated. Measurements of periodical elastic compensation of solid Earth on tide and surface load, determined from GRACE data are used to this purpose. We propose to use a spectral method to convert the 10-day GRACE gravity field CNES-solutions (interpreted as surface load) in terms of vertical displacements comparable to GPS measurements from geodetic stations. We apply this strategy to the analysis of Central Asia region. The correlation between GPS time series of vertical heights measurements and surface loads is demonstrated.