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Time series analysis of GPS and absolute gravimetry in a land uplift area.

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We have collected simultaneous data over several days with a collocated GPS and an absolute gravimeter. Using the precise point positioning strategy we will produce GPS coordinate time series based on precise satellite ephemeris, clock corrections, and earth orientation parameters. Time series analyses in the time and frequency domains will focus on geometrical detection and measurement of phenomena observed to be present in the gravimetric signal, such as solid earth tides, loading effects from the nearby ocean and atmosphere, and a possible earth quake. These short term crustal deformations are expected to produce temporal changes in height and gravity. We investigate the nature of these changes explore if they are different from those of the much slower process of postglacial land uplift.