

# Seasonal vertical crustal motions In China detected by GPS

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**ABSTRACT** Seasonal altitude variations with amplitude of 3-10 mm are detected by reducing daily continuous GPS data from 1999 to 2001 of Chinese fiducial network. Seasonal vertical crustal movements caused by atmospheric pressure, non-tidal ocean loading, snow, and soil moisture mass loading redistribution can explain most part of the variations. Nevertheless, there exists a systematic discrepancy between GPS deducing result and the one predicted by various geophysical sources. Much longer GPS site position time series and further studies are needed to give out a reasonable interpretation for this discrepancy.