Tropospheric delay in SAR interferometry: Comparison with GPS

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We compare tropospheric phase delay in JERS-1 InSAR with tropospheric delay data from GEONET. The data of 1997/12/19 and 198/2/1 in Kanto region was used. The tropospheric effect is different between InSAR and GPS, so we process GPS data as follows. First, we calculated zenith delay in every five minutes from GEONET data, made difference between 1997/12/19 and 198/2/1, and project them into radar line-of-sight direction. Then we remove quadratic component from the GPS tropospheric delay difference because quadratic component of tropospheric delay in InSAR is removed by interferogram processing.

Interpolating and mapping the data, we found a similar morphology between SAR interferogram and tropospheric delay distribution from GPS, indicating a correlation between them.