

## Imaging Ocean Tidal Loading Deformation by SAR Interferometry -Application of ERS data to Korean Peninsula-

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We have tried to detect oceanic tidal loading deformation by SAR interferometry. The area is along the west coast of south Korea around Yellow Sea, where it is known as a large change in ocean tidal level. The observed deformation is the difference of two snapshots between January 6, 1996 and March 16, 1996. We employed ERS1 and ERS2 satellite SAR data. The theoretical tidal loading deformation is computed by convolving load Green function with the ocean tide model by Matsumoto et al. 1995. We could observe a concentric circular pattern around Asan Bay in the derived differential interferogram, which is expected from the theoretical computation.

We have tried to detect oceanic tidal loading deformation by SAR interferometry. The area is along the west coast of south Korea around Yellow Sea, where it is known as a large change in ocean tidal level. The observed deformation is the difference of two snapshots between January 6, 1996 and March 16, 1996. The difference of the tidal amplitude of these two periods at Inch'on is about 3 meters. We employed ERS1 and ERS2 satellite SAR data. The theoretical tidal loading deformation is computed by convolving load Green function with the ocean tide model by Matsumoto et al. 1995. We could observe a concentric circular pattern around Asan Bay in the derived differential interferogram, which is expected from the theoretical computation. However, the observed amplitude is somewhat larger than the model computation. A detailed comparison of the observed interferogram with theoretical one is required. Also, we are going to discuss the influence of tropospheric delay upon the observed interferogram.