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**Grounding line and hinge zone of Ross Ice Shelf, Antarctica,  
observed by DDInSAR**

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**Abstract**

This paper reports the tidal deflection of Ross Ice Shelf, Antarctica, observed from Sentinel-1A data processed by using double-differential interferometric synthetic aperture radar (DDInSAR) technique. Sentinel-1A single look complex SAR data of 2015-2016, along the east and the west coast of Ross Ice Shelf, were obtained and interferometrically processed by Sentinel Application Platform (SNAP) program. GETASSE30 digital elevation model was used to remove the topographic fringes. After the phase unwrapping using SNAPHU program, the two interferograms were subtracted to obtain DDInSAR image to highlight the tidal deflection signals under the assumption of steady gravitational glacial flow. As a result, we can identify grounding lines and hinge zones in the east and the west coast of Ross Ice Shelf. The wider hinge zone in the west indicates thicker ice shelf than the east. Comparison of the tidal deflection with tidal model remind us the importance of barometric correction.