

Frequency dependent Love and Shida numbers determined from GPS and gravimetric data at Syowa Station, Antarctica

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With objective of monitoring variations in the Antarctic geosphere, we have been performing several geodetic measurements such as VLBI, GPS, DORIS, tide gauge, and superconducting gravimeter (SG), at/around Syowa Station, Antarctica. The tide always deforms everywhere on the Earth periodically in the wide frequency bands. To observe the tidal responses of geosphere, e.g., Love and Shida numbers, is useful for understanding the internal physical properties of the Earth. In this study, we computed tidal parameters from GPS and SG data during Jan. 2010 - Jan. 2013 by applying tidal analysis software BAYTAP (Tamura et al., 1991) and determined frequency dependent Love and Shida numbers at the period of 1/2 - 180 days.

Keywords: Love and Shida numbers, Tidal analysis