Geophysical Research Abstracts, Vol. 7, 09173, 2005
SRef-ID: 1607-7962/gra/EGU05-A-09173

Regional atmospheric pressure excitation functions for polar motion

J. Nastula (1), D. Salstein (2), and B. Kolaczek (1)

(1) Space Research Center PAS, Warsaw, Poland, (2) Atmospheric and Environmental Research, Inc., Lexington, MA, USA

Studies of the pressure terms of the regional atmospheric excitation functions of polar motion at high resolution based on 3312 regional sectors covering the whole globe, over both land and ocean, were undertaken. On the annual time scale, the correlations of these functions in the land regions, especially Central Asia, North America, and South America, with global signals are relatively large. That of the semiannual shows less correlation in these regions. When the Inverted Barometer is added to the regional atmospheric excitation functions, the influence of the ocean sectors reduces and that of the land sectors is further strengthened. Signal variances and covariances and correlations between regional pressure terms of the atmospheric excitation function and geodetic excitation function with such high resolution in some chosen strong regions, especially in Eurasia, are computed and studied in detail.