Geophysical Research Abstracts, Vol. 7, 04628, 2005

SRef-ID: 1607-7962/gra/EGU05-A-04628 © European Geosciences Union 2005



Correlation between the solar activity and the amplitude variations of the seasonal oscillations of the gravity

Ya. Chapanov (1), N. Lozitska (2), B. Srebrov (3), V. Lozitsky (2),

(1) Central Laboratory for Geodesy (CLG) of Bulgarian Academy of Sciences (BAS), Sofia, Bulgaria (chapanov@clg.bas.bg), (2) Astronomical Observatory (AO) of National Taras Shevchenko University (NTSU), Kyiv, Ukraine (lozitsky@observ.univ.kiev.ua), (3) Geophysical Institute (GFI) of Bulgarian Academy of Sciences (BAS), Sofia, Bulgaria (srebrov@gfi.bas.bg)

The cycles of the solar activity are important factor, which affects various processes around the Earth, on the Earth's surface and inside the planetary body. An aspect of the manifestations of the solar-terrestrial influences is the 11-year variations of the parameters of some geophysical processes. Here the non-tidal variations of the gravity at observatory Brussels are analyzed. The tidal data for the period 1982-2000 from the superconducting gravimeter at observatory Brussels are used. An 11-year modulation of the amplitude of the seasonal oscillation of the gravity at observatory Brussels is discovered. This modulation is in good agreement with the variations of the Wolf's numbers. The coefficient of the correlation between the variations of the solar activity and the amplitude of the seasonal oscillations of the gravity at observatory Brussels is determined.