## NORTH-SOUTH ASYMMETRY IN THE ELECTRON AND PROTON FLUXES: DEPENDENCES

E.V.Gorchakov and Yu.V.Mineev

Skobeltsyn Institute of Nuclear Physics, Moscow State University

The value and sign of the North-South asymmetry in the electron and proton fluxes with low (Ee = 0.19-3.0 MeV, Ep = 1.0-60.0 MeV) and high (Ee =7.0 MeV, Ep = 500.0 MeV) energies are studied as dependence on the particle energy. The Cosmos-900, Ohzora, and Intercosmos-19 data for polar caps area are used. The North-South asymmetry value and sign are treated to depend on solar activity and on the IMF sector structure and sign. Data concerning high energies indicate that concentration of galactic cosmic rays may be different in the northern and southern heliosphere with the excess value and sign being dependent on particle energy. The IMF sector structure effect comes to changing of asymmetry value, rather than sign.. The North-South asymmetry in the low-energy electron fluxes is mostly negative during positive Bz and sunward IMF. The value of the asymmetry in galactic cosmic rays has been found to increase little with rising energy, and the asymmetry sign to reverse during solar maximum. The asymmetry sign of the low-energy electron fluxes is predominantly opposite in phase to the high- and low-energy proton fluxes. The drift effects are assumed to depend on the product of the signs of particle charge and IMF sector, rather than on either of the signs separately.

The results are compared with the balloon and satellite Meteor measurements of 1977-2000 years.