MAGNETIC NEUTRINO RESONANT SPIN-FLAVOR PRECESSION, 2. HELIO-LATITUDINAL ASYMMETRY OF SOLAR NEUTRINO FLUXES AND CORRELATION COEFFICIENTS.

L.I. DORMAN (1,2)
(1) Israel Cosmic Ray Center and Emilio Segre' Observatory, affiliated to Tel Aviv University, Technion and Israel Space Agency, Israel; (2) IZMIRAN, Russian Academy of Science, Troitsk 142092, Russia
e-mail: lid@physics.technion.ac.il / fax: 972-4-6964952

On the bases of available Homestake experimental data (Cleveland et al., 1998) for more than two solar cycles (1970-1994) we determine for each solar neutrino run "n" effective helio-latitude Lef(n). Then we separate all Homestake runs on three equal helio-latitudinal zones: SOUTHERLY, EQUATORIAL, and NORTHERLY with average helio-latitudes -5.3, -0.3 and +5.3 degrees, correspondingly. For each zone and each run we found effective Zurich sunspot number Zef(n), total effective surface of sunspots STef(n), as well as effective surfaces of sunspots in different non-symmetrical helio-latitudinal belts. We separated also all runs on 3 equal groups of LOW, MEDIUM and HIGH solar activity with average sunspot numbers 25.0, 80.1 and 149.9. We found that the biggest decrease of solar neutrino flux with increasing of solar activity was observed in EQUATORIAL zone: from 3.6 SNU at LOW solar activity to 2.1 SNU at HIGH solar activity. The biggest SOUTH-NORTH asymmetry in solar neutrino fluxes was observed in group of runs at LOW solar activity: 2.9 SNU in SOUTHERLY zone and 2.1 SNU in NORTHERLY zone. The SOUTH-NORTH asymmetry is found also in correlation coefficients between solar neutrino fluxes in the helio-latitudinal zones SOUTHERLY, EQUATORIAL, and NORTHERLY with solar activity in different non-symmetrical helio-latitudinal belts. Obtained results support the model of magnetic neutrino resonant spin-flavor precession.