High Energy Protons in Auroral Regions

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The role of energetic protons in physical processes taking place in auroral regions of near-Earth's space is being discussed. Results or registering the fluxes of protons of energies higher than 1 MeV in experiments made by various spacecrafts in 21–23 solar cycles are considered. Comparison of half-year, 1-year and 2-year proton fluences in various solar cycles is made. It is shown that energy distribution of proton fluences could be well fit by a power function. Variations of a degree of power function essentially decrease with the increase of time for which fluences were calculated. Proton fluxes significantly decrease during the change of the sign of polar magnetic field. A conclusion is made that the data received could be put in the basis of developing the calculated model of proton fluxes in auroral regions.