SHOCK ACCELERATION OF ENERGETIC PARTICLES IN SOLAR CORONA

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Energetic particle (ion) acceleration by shocks during their propagation through the solar corona is studied. Diffusive transport equation is solved numerically within the range of heliocentric distance up to 7 solar radius, where the efficient particle acceleration takes place. The values of corona parameters are taken from the observations. Due to high magnetic field and shock speed values the spectrum of accelerated particles is quickly formed during the initial period of about an ten minuts up to maximum energy of the order of 1 GeV. On later stages acceleration process becomes unefficient and previously produced particles start to run away from the shock due to their progressively increasing mobility. Calculated accelerated particle spectra are compared with the solar energetic particles accomplished at the Earth's orbit.