

ACCELERATION OF IRON IN GRADUAL SEP EVENTS: NONHOMOGENEOUS PLASMA

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Acceleration of iron ions by a spherical shock wave moving through the solar corona is considered. The energy dependence of Fe mean charge, $\langle q(E) \rangle$, is determined by the characteristic acceleration time, T_a , and time for charge changes, T_q . The latter varies along with plasma density during the propagation of the shock wave. An account of adiabatic energy changes, shock broadening and turbulence generation by protons is shown to insufficiently influence the dependence $\langle q(E) \rangle$. According to our estimations the photoionizing processes do not affect the ionic states of the accelerated iron in gradual events as well.