

## MEAN CHARGE STATES OF SOLAR ENERGETIC PARTICLES IN IMPULSIVE EVENTS

**M. D. Rodríguez-Frías** (1), L. del Peral (1), J. Gutiérrez (1) and J. A. Pérez-Peraza (2)

(1) Depto. Física. Universidad de Alcalá. Madrid. Spain, (2) Depto. de Estudios Espaciales. UNAM. Mexico City. Mexico.

The calculation of the mean charge states of various ion stages of abundant elements is the first step in understanding and modeling the X-ray emission from hot astrophysical plasmas such as stellar coronae. Our model combines acceleration with energy loss and charge stripping low in the corona. Therefore we have taken into account explicitly the second-order Fermi-type stochastic acceleration under a magnetohydrodynamic turbulence. We have found that the mean ionic charge states depend sensitively on plasma parameters as source temperature or density and on acceleration parameters as efficiency or the timescales for acceleration.