

The role of perpendicular diffusion and latitude dependent acceleration along the solar wind termination shock

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A numerical model containing diffusive shock acceleration is applied to the region of the heliosphere at and beyond the solar wind termination shock. First, the role of radial perpendicular diffusion at the termination shock is studied, in particular, the role it plays in the effectiveness of the acceleration of anomalous protons and helium. Second, the effects of changing the effectiveness of the shock acceleration by making it highly polar angle dependent with the main source of anomalous particles close to the equatorial regions of the heliosphere. The results of the modeling will be presented and discussed.