國立中央大學太空科學與工程學系

Department of Space Science and Engineering, National Central University

專題演講

Effect of the heliospheric current sheet on the arrival time of solar energetic particle events at 1 AU

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Time： 112 年 6 月 2 日 星期五 14:00-15:00

Place： 健雄館(科四館) S4-917 教室

摘　要/Abstract：

Interactions Interplanetary (IP) shocks and the heliospheric current sheet (HCS) are two global-scale plasma discontinuities in the heliosphere. Interactions between the two discontinuities in the inner heliosphere are inevitable due to the radial propagation of the IP shock and the Parker spiral alignment feature of the HCS. However, such interactions are still poorly studied and understood. Here, we present results from numerical simulations of IP shock propagation within ~1.5 AU using our time dependent, global, 3-dimensional magnetohydrodynamic (MHD) model of the solar wind [Wu et al. 2020, solar Physics]. Specifically, we simulate one CME event that occurred on 03 April 2010 (CME03) and its driven shock. A Gaussian pressure pulse was injected into the computational system from its inner boundary (18 solar radii) to simulate each of the CME03. Validation of the simulation is done by comparing with in situ plasma and field measurements from the *Wind* spacecraft. We will present effects of the HCS on the IP shock propagation speed, direction, shock strength, and shock deformation.

※歡迎聽講※

~請聽講者提早入座~