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Das Institut für Physik

Fachbereich Astrophysik und Geophysik

lädt zu folgendem Vortrag

im Rahmen des **Astrophysikalischen Kolloquiums** ein:

"Subsolar compressive foreshock structures and their connection to the magnetosheath"

N. Xirogiannopoulou, MSc

Charles University, Faculty of Mathematics and Physics, Prague, Czech Republic

The turbulent foreshock region upstream of the quasi-parallel bow shock is dominated by waves and reflected particles that interact with each other and create a large number of different foreshock transients. Xirogiannopoulou et al. (2024) found a systematic significant deceleration (between 5-15%) of the solar wind inside the foreshock. They also showed that this property plays a major role in the creation of subsolar structures with enhanced density or/and magnetic field magnitude, like plasmoids, SLAMS and mixed structures. Moreover, they have found that their formation is increasing with increased velocity of the pristine solar wind. Previous studies established that foreshock structures are connected with MSH jets (Raptis et al., 2022). Simultaneously, Koller et al. (2023) researched the connection between the MSH jets and solar wind structures and concluded that the high-speed streams (HSS) create a more favorable environment for the jet creation. Following these results, we are using THEMIS A, D and E measurements between the years 2022-2023 near the bow shock (BS) in an attempt to trace and observe foreshock properties and transients and their association with the magnetosheath jets.

Date: **Wednesday June 5, 2024 - 16:00 (Library Experimental Physics)**

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