

## **DON'T GO WITH THE FLOW: AN INVITATION TO MAGNETOSHEATH AND FORESHOCK STUDIES**

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This talk reviews the predictions of gasdynamic, magnetohydrodynamic, and kinetic models for the magnetosheath and foreshock and compares these predictions with observations by the recent Cluster and THEMIS missions. Topics of interest include: the depletion layer, dawn/dusk asymmetries, the transmission of solar wind discontinuities, the formation of hot flow anomalies and cavities in the foreshock, and flows accelerated by field-line tension. We conclude by discussing opportunities for magnetosheath imaging.