Abstract Submitted
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**Data-model comparisons of storm-time ion dynamics**[1] AMY KEESEE, EARL SCIME, West Virginia University, YU HUANG, RALUCA ILIE, University of Illinois Urbana-Champaign, MICHAEL LIEMOHN, University of Michigan — Plasma sheet conditions play a significant role in inner magnetosphere dynamics, particularly during periods of strong convection, such as during geomagnetic storms. To be able to accurately model the geospace environment, particularly during storm intervals, we must improve our understanding of the mechanisms that influence plasma sheet characteristics, such as ion heating, as well as the processes that transfer plasma sheet particles to the inner magnetosphere. The global view provided by energetic neutral atom (ENA) imaging provides a way to conduct data-model comparisons with both spatial and temporal resolution. Thus, TWINS measurements can provide a useful method for determining which physical processes in a simulation yield accurate modeling of actual events. In turn, the simulations can be used to determine which processes cause the features observed in the measurements. Recent advances in the Hot Electron and Ion Drift Integrator (HEIDI) model enable the use of more realistic magnetic field geometries. HEIDI has been incorporated as one of the inner magnetosphere components within the Space Weather Modeling Framework (SWMF) for global modeling. We present data-model comparisons of ion temperatures during the high speed stream-driven storm on 2 May 2010.

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Amy Keesee
West Virginia University

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