

Abstract Submitted
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Analysis of Ion Temperatures During a Geomagnetic Storm

TESSA MAYNARD, AMY KEESEE, West Virginia University — The Imager for Magnetopause-to-Aurora Global Exploration (IMAGE) satellite was launched in the Earth's magnetosphere in 2000 with the Medium Energy Neutral Atom (MENA) instrument attached. MENA is an energetic neutral atom (ENA) imager. ENA data can be used to determine ion energy spectra from which a temperature can be calculated. By doing such, images of ion temperature can be produced with spatial and temporal resolution. The data and images collected by MENA during geomagnetic storms are being analyzed. The data analysis will result in graphs mapping the ion temperature in relation to time and position. This will improve our understanding of ion heating during storms. Geomagnetic storms can be powerful and dangerous, knocking out power grids and satellites. Looking at the storm data will give us a better understanding of the dynamic relationship between the Earth's magnetosphere and the geomagnetic storms.

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