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Running Down the Magnetosphere: Energy Dissipation After the IMF Turns Northward ALICIA MOSS, TAMARA CULLENS, JENNIFER KISSINGER, ROBERT BRUNTZ, RAMON LOPEZ, Florida Institute of Technology, Department of Physics and Space Sciences — We have been studying the effect on Earth's magnetosphere of sudden changes in the direction of the interplanetary magnetic field (IMF). In particular, we have studied the effect of a sustained south to north rotation of the IMF in the dissipation of energy in the magnetosphere. When the solar wind in the magnetic field turns northward, energy input from the solar wind stops. We have identified several such cases. We used the Auroral Electrojet index (AE) and the Polar Cap index (PCI) to characterize the amount of energy being dissipated in the ionosphere from Joule heating. This allows us to determine how long it takes energy in the magnetosphere to be dissipated after the energy source turns off.

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