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**Time delay between IMF changes and the response of the night-side geosynchronous magnetic field** DUSTIN BREWER, ROBERT BRUNTZ, RAMON LOPEZ, UT Arlington — The interplanetary magnetic field, or IMF, is the Sun's magnetic field which is carried to the Earth via the solar wind. Some models predict that there will be a difference in how quickly Earth's magnetic field responds to changes in the solar wind, depending on the strength of the IMF. In order to investigate the timing delay, we have found sudden, high-magnitude reversals in the north-south component of the IMF, using the OMNI database. We then observed the delay between the change in the IMF and the change in Earth's magnetic field in the midnight sector using GOES satellites in geosynchronous orbit. We will report the magnitude of the delay between IMF changes and corresponding changes in the nightside magnetic field of the Earth, as well as the correlation between the delay and the magnitude of the IMF.

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