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**Response Time of the Ionosphere to Sign Changes in the Interplanetary Magnetic Field Y-Component** CHRISTOPHER SHERRILL, MIKAYLA STREETMAN, KEVIN PHAM, RAMON LOPEZ, University of Texas at Arlington — The solar wind is the continuous flow of plasma outward from the sun. The interplanetary magnetic field is the sun's magnetic field that is frozen into and is carried outward by the solar wind. We are interested in events where the interplanetary magnetic field y-component changes from the westward to the eastward or eastward to the westward in less than 5 minutes and is relative steady before and after the change. After an event has been identified, we examine the event using data from AMPERE and calculate the time it takes for the ionospheric field-aligned current system to change accordingly. AMPERE data is derived from magnetic perturbations collected by the Iridium satellite constellation and used to create a map of the ionospheric field-aligned current density. We will present a comparison of the time it takes to switch from west to east and east to west as well as if the time depends on other factors such as solar wind velocity or density. We suspect both transitions will have a similar response given that they have the same ionospheric configuration but in different directions.

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