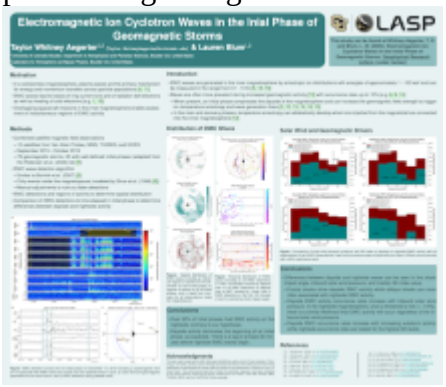
Taylor
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Poster
Using simultaneous magnetic field observations from 10 satellites and an automated detection algorithm, we identify broad regions of electromagnetic ion cyclotron (EMIC) wave activity during the initial phases of geomagnetic storms between September 2015 and October 2019. Since an initial phase is driven by compression of the dayside magnetosphere, we expect the majority of activity to be found here. However, in 56.5% of initial phases examined in this study, there is EMIC activity in the nightside magnetosphere. Occurrence of this nightside activity increases as an initial phase progresses, with a lag of at least 35 minutes before it begins. Additionally, the solar wind dynamic pressure, substorm activity level, and shock impact angle have strong positive correlations to dayside EMIC activity rates compared to nightside. With these observations, we can characterize the extent of magnetospheric response in the form of EMIC wave activity throughout the initial phase of a geomagnetic storm.



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