

Gamma ray bursts detection capabilities of a sudden ionospheric disturbance (SID) detector.

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Cosmic gamma ray bursts (GRB) are high energetic photons resulting from astrophysical events within and beyond our galaxy. Their energy is deposited in the upper atmosphere by ionization of the constituent atoms and molecules. The resulting plasma affects the absorption and hence the propagation of radio waves in the VLF range which can be used to detect and analyze GRB. In this work we are investigating the response of a SID monitor to GRB by modeling the ionization by GRBs in the ionosphere and the effects on the radio wave propagation. Subsequently we discuss the potency of the SID monitor for detection and analysis of GRBs and the implications to space-weather monitoring and applications.

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