IONOSPHERIC SIGNATURES OF GAMMA RAY BURSTS

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Gamma Ray Bursts are bright flashes of energetic photons lasting from a few seconds to tens of minutes. They are caused by violent astronomical events. An increase in incident gamma-ray flux results in enhanced ionisation of Earths lower ionosphere, manifested as a perturbation in amplitude and phase of VLF navigation transmitter signals. Data from Antarctica and Hungary were compared with records of GRBs to identify events which resulted in appreciable ionospheric disturbances. Events were classified according to the severity of ionospheric effects. The configurations of signal great circle paths and GRBs resulting in the largest disturbances were determined.