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High Energy Radiation from Black Holes in Gamma Ray Bursts

CHARLES DERMER, Naval Research Laboratory, GOVIND MENON, Troy University, SOEBUR RAZZAQUE, JUSTIN FINKE, NRL — Gamma ray bursts are sources of broadband radio-through-gamma radiation that are thought to occur during the formation of black holes from stellar core collapse or compact-object coalescence. Particles accelerated in the shock waves of relativistic plasma ejected from GRB sources make cosmic rays, gamma rays and neutrinos. Signatures of ultra-high energy cosmic rays in GRBs should reveal characteristic hadronic emissions. In this talk, contrasting leptonic and hadronic emission signatures in the electromagnetic spectrum of GRBs are considered as a probe of particle acceleration in GRBs.

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