

Very high energy neutrinos from Gamma Ray Bursts in dense clusters

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The progenitors of gamma-ray bursts (GRBs) are massive stars still immersed in dense stellar clusters. We consider a scenario in which protons accelerated within the jet of GRB can escape to dense regions. Protons interact efficiently with the matter of the cluster and produce high energy neutrinos. We calculate the spectra of relativistic protons within the cluster and spectra of neutrinos from their interactions with the matter.

Neutrinos produced by the whole population of the GRBs should contribute to the extragalactic neutrino background.

We calculate extragalactic neutrino background from GRBs and compare it with the observations of the Ice-Cube.

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Gamma-ray burst, radiation mechanism - non thermal gamma rays and neutrinos

Collaboration

other Collaboration

Subcategory

Theoretical Results

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