Executive summary

Very high energy neutrinos from Gamma Ray Bursts in dense clusters

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- **What is this contribution about?**
- The origin of the astrophysical sources of neutrinos measured by IceCube is unknown. **We consider a scenario in which protons accelerated within the jet of GRB can escape to dense regions when they interact efficiently with the matter of the cluster and produce high energy neutrinos.**
- **Why is it relevant?**
- **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.**
- **What is the result?**
- **We compare the calculated extragalactic neutrino background from GRBs with the observations of the IceCubeOur model in the case of negligible adiabatic energy losses of relativistic hadrons is able to contribute significantly to the ENB at energies below ~100 TeV.**