

Abstract for an Invited Paper  
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### **Neutrinos At The Heart Of Gamma Ray Bursts**

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The identification of redshifts in the optical afterglows of long-duration gamma-ray bursts (GRB) has settled the dispute of their location in favor of an origin at cosmological distances. Other observational evidence points towards their association with the death throes of massive stars. This has led many to posit that the most plausible model for the GRB central engine is the formation of a stellar mass black hole and an accretion disk at the center of a collapsing massive star. The accretion disk cools by neutrino emission and successful explosions may, in part, rely upon the ability to extract momentum and energy from the large neutrino luminosity. I present calculations for the energy/momentum transfer and discuss their implications for these GRB models.