

Abstract Submitted
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Relativistic Jets from Collapsars and its Energy Distribution

AKIRA MIZUTA, Chiba University — The origin of some of long GRBs is believed to be supernovae. It is difficult to know the properties of progenitors. We perform relativistic hydrodynamic simulations of jet propagation in the collapsar and interstellar medium, using some possible progenitors developed by massive stellar evolution to study the dependence on the progenitor for the emissivity from the jet. The the jet is well collimated in the progenitor, though the injected jet has some opening angles. The internal structure, such as internal shocks, is quite less, if the opening angle is not so small. Though the progenitors which we used in this study have different radius, total mass, mass distribution, etc. the energy distribution of jet in angle does not strongly depend on the properties of the progenitors after the jet break of the progenitor.

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