Photon-Rich, Relativistic Magnetofluids and Gamma-Ray Bursts
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We describe how a relativistic magnetofluid containing a warm (1-10 keV) blackbody
gas may be emitted from some peculiar types of core-collapse supernovae, examine
the damping mechanism of the magnetohydrodynamic turbulence that is excited in
the expanding fluid (and how this damping differs from what has been postulated for
non-relativistic magnetofluids), explain how electron- positron pair creation in the
surrounding medium controls the deceleration of the relativistically boosted fluid
and regulates the optical depth to electron scattering through it, and summarize
the implications of these various pieces of physics for the emission mechanism of
gamma-ray bursts.