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Recent Developments in Simulations of Stellar Core Collapse

CHRIS FRYER, Los Alamos National Laboratory

Core-Collapse supernova (and long-duration gamma-ray bursts) make up some of the most energetic explosions in the universe. But understanding these explosions requires combining a wide range of physics into a complex physics problem. Scientists have, since the 1960s, relied upon increasingly complex computational models to simulate both the engines and the light emission behind these explosions. In the past few years, considerable progress in both these sets of calculations have been made. I review this progress here.