

# New exact models in radiating stellar collapse

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We apply general relativity theory to the problem of the gravitational collapse of a radiating superdense star. The physical problem requires the junction conditions at the boundary to be satisfied. This involves matching the curvature and matter components relating to the interior and exterior of the star at the boundary of the star. We obtain a highly nonlinear partial differential equation. In order to study physical features such as the temperature and the luminosity of the star we are required to solve the governing equation exactly. In this paper we show that particular transformations lead to exact models. These are the first models describing radiating collapse with shear, expansion and acceleration of the gravitating stellar fluid.