

# Equation of State Effects in the Core Collapse of Massive Stars

*Wednesday, 14 August 2019 10:15 (30 minutes)*

Uncertainties in our knowledge of the properties of dense matter near and above nuclear saturation density are among the main sources of variations in multi-messenger signatures predicted for the core collapse of massive stars and the properties of the resulting remnants. In this talk, I discuss how variations in the equation of state of dense matter affect the core collapse of massive stars. By simulating the core collapse of many different progenitors using a wide range of equations of state we conclude that temperature effects are among the largest sort of uncertainty in the dynamics of the core collapse, the emitted neutrino signal, and the compact object formed.

## Keywords

Core-Collapse Supernovae

**Primary author:** DA SILVA SCHNEIDER, André (Stockholm University)

**Presenter:** DA SILVA SCHNEIDER, André (Stockholm University)

**Session Classification:** Equation of State