ID de Contribution: **62** Type: **Non spécifié**

N. Smirnova: 3D Simulations of Pair Instability Supernovae Explosions

mardi 28 mai 2019 18:10 (10 minutes)

PISN is the explosions of supermassive, up to 1000 solar masses, stars of the III generation with low metallicity, which are on the cosmological distances from the Earth in the young universe. In present time there are not many publications exist on this topic what is explained by observational difficulties. These kinds of stars are unavailable for direct observations now, but the advanced instruments are developed fastly and there is no doubt that in a few years the topic became very popular branch of astrophysics.
For better understanding of the hydrodynamical process of pair instability supernovae explosion numerical simulation is crucial. The results of the 3D hydrodynamic simulation of pair-instability supernovae with core of 70, 90 and 100 solar masses will be presented. For each case the amount of nuclear energy release and lost through neutrino losses during the explosion will be shown. The results of 3D simulations will be compared with results of 1D and 2D simulations from other works.

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Classification de Session: Students' presentations