

Hydrodynamics and nucleosynthesis in a PISN model

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The results of numerical study of the problem of nucleosynthesis in 100 Msol oxygen stellar core explosion as a pair-instability supernova are presented. The hydrodinamical simulation of supernova model in RZ-geometry is performed with the original numerical code based on a piecewise parabolic method on a local stencil (PPML) with self-gravity and with the equation of state for stellar matter, taking into consideration the creations of electro-positron pairs. Detailed yield of chemical elements is performed as a post-processing step using the tracer particles method. In the report the description of the numerical code and the results of simulation with connection to observations will be presented.

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