Explosion of chemically segregated white dwarfs.

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Abstract

Recent phase diagrams of carbon-oxygen Coulomb plasmas containing impurities like 22Ne, 56Fe, and others suggest a migration of these neutron rich nuclei towards the central regions upon crystallization. Within the SNIa scenarios, the newly born white dwarf has some time to cool down before stating the accretion phase and consequently to partially or totally modify its structure. This change of structure can modify the density at which ignition starts and reduce the abundances of neutron rich isotopes in the outer layers. In this contribution we analyse the consequences of such changes on the yields of neutron rich species for different cooling times prior the explosion.

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