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Neutrinos probe supernova dynamics

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Despite their extremely weak interactions, neutrinos are crucial to the dynamics of the most spectacular events in our galaxy: the deaths of massive stars in violent supernova explosions. In the delayed explosion scenario of core-collapse supernovae, neutrinos play a fundamental role reviving the explosion and carry imprints of the supernova hydrodynamics. Neutrino signal variations from first three-dimensional hydrodynamical simulations as well as their detection perspectives will be discussed. I will also talk about perspectives on what we could learn from such a measurement concerning the physics in the supernova core and the explosion mechanism.

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Classification de Session: Astrophysical neutrinos - Dark Matter

Classification de thématique: Theory