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Probing Core-collapse Supernova Physics with Neutrinos

mardi 19 mai 2009 15:45 (30 minutes)

We discuss how one can exploit the enormous neutrino signal expected in a future galactic supernova (SN) to learn about the physics of the SN. We will concentrate on two different aspects: Firstly we analyze the possibility to locate the SN by using the directionality of the elastic scattering off electrons in a water Cherenkov detector. On the other hand we will show how their weak interaction with matter and their flavor mixing make neutrinos ideal messengers to track the SN explosion mechanism.

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Classification de Session: More on the emission processes of GW and HEN