

Supernova neutrino signals as indicators of neutrino mass ordering

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Supernovae events are one of the most powerful cosmic sources of neutrinos with energies of several MeV. The emission of neutrinos and antineutrinos of all flavors carries away the gravitational binding energy of the compact remnant and drives its evolution from the hot initial to the cold final state. I will briefly describe how to detect these neutrinos from Earth, and how to use these data to address the neutrino mass ordering problem. The main goal of this work is to develop a model-independent analysis strategy by comparing different detection channels at large underground detectors that allow looking for indicators of mass ordering in the neutrino sector.

In addition, we performed a statistical study on the expected signals for both mass ordering to determine if the expected signals can be distinguished.

Primary author: SAEZ, Maria Manuela

Presenter: SAEZ, Maria Manuela

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