

## Monte Carlo simulations in neutrino physics: the example of the SOX experiment

*Friday 18 March 2016 10:40 (20 minutes)*

The talk describes the SOX project which aims to test the existence of light sterile neutrinos. A solid signal would mean the discovery of the first particles beyond the Standard Electroweak Model and would have profound implications in our understanding of the Universe and of fundamental particle physics. In case of a negative result, it is able to close a long standing debate about the reality of the neutrino anomalies. The SOX experiment will use a Ce-144 antineutrino generator placed at short distance from the Borexino liquid scintillator detector. Particular emphasis will be devoted in describing how a simulation of a neutrino detector is implemented and how it can be used to obtain useful information for the future data analysis.

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