Contribution ID : **262**   Type : **Poster**

Pointlike events discrimination in the RED-100 experiment using ML algorithms

Tuesday, 22 October 2024 17:05 (115)

RED-100 is a two phase detector with Xe as a target material designed to study coherent elastic neutrino nucleus scattering (CEvNS). In 2021-22 it was exposed at Kalinin NPP (Udomlya, Russia) 19 meters from the reactor core, nowadays the modification with LAr as working medium is undergoing. This poster is about reducing the specific background component. This type of background comes from spontaneous emission of single electron events (SE). Signals from coincidence of several SE signals are very similar to signals from pointlike events. Hence complex discrimination algorithms are required. We carried out a detailed simulation of the SE signals and developed two algorithms based on neural networks in order to solve this problem. Results of simulation and neural networks are shown and discussed.

Primary author(s) : RAZUVAEVA, Olga

Presenter(s) : RAZUVAEVA, Olga

Session Classification : Poster session

Track Classification : Facilities and advanced detector technologies