The 7th international conference on particle physics and astrophysics



Contribution ID : 93

Type : Oral talk

Review of achievements in the development of two-phase emission detector technology and setting up experiments in modern particle physics

Friday, 25 October 2024 11:45 (15)

The technology of two-phase emission detectors has been introduced into experimental practice at MEPhI 50 years ago. This type of detectors is extremely sensitive to ionization (down to individual electrons), can be used in very massive (on the scale of hundreds of tons) detectors in order to provide high count rate for quite rare events and organize an active shielding from natural radioactivity in the wall-les configuration of the readout systems. Emission detectors have found their unique application in the most sensitive at the moment experiments searching for cold dark matter in the form of weakly interacting massive particles (WIMPs), accelerator neutrino physics, searching for neutrino less double beta decay search and observing elastic coherent scattering of reactor neutrinos off atomic nuclei. Future prospects will be discussed.

Primary author(s) :Dr. BOLOZDYNYA, Alexander (NRNU MEPhI)Presenter(s) :Dr. BOLOZDYNYA, Alexander (NRNU MEPhI)Session Classification :Facilities and advanced detector technologies

Track Classification : Facilities and advanced detector technologies