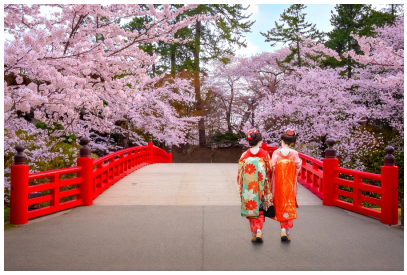

ID de Contribution: **30** Type: **Non spécifié**

Pioneering Noble Gas detectors for neutrinoless double beta decay search

mercredi 29 mars 2023 11:05 (15 minutes)

We are developing new techniques using noble gas detectors with the aim of overcoming the current limitations in the search for the neutrinoless double beta decay($0\nu\beta\beta$).
The $0\nu\beta\beta$ occurs only if the neutrino is a Majorana type. And whether neutrinos are Majorana particles or not is a key problem to understand why neutrinos are so light and whether neutrinos are the reason why the universe is filled with matter (origin of the matter-dominated universe).
Our detector, AXEL (A Xenon ElectroLuminescence), is a high-pressure xenon gas time projection chamber. In this talk, we will show the performance obtained with the 180-L prototypes, status of the construction of the new 1000-L detector and an study result of an interesting new technique.

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Classification de Session: Neutrinos

Classification de thématique: Neutrinos