



Contribution ID: 85

Type: **Oral Presentation**

Water-based quantum dots liquid scintillator for radiation detection

Monday, 9 October 2023 09:40 (20 minutes)

Liquid scintillators consist of scintillating organic fluors in organic solvents, and they have been used in radiation detection for many years. However, there are a number of advantages to using water as a solvent, and R&D of water-based liquid scintillators is becoming popular. Here, we have developed an alternative approach. We use quantum dots, or nano-crystals, as scintillating fluors and suspend in water solvent. This water-based quantum dots liquid scintillator is tested with cosmic rays to measure scintillation efficiency and decay time. Other optical properties are also measured. We confirmed that this new material can be a potential radiation detector in particular a new neutrino detector.

Primary authors: COLE, James (King's College London); Dr KATORI, Teppei (King's College London)

Presenter: Dr KATORI, Teppei (King's College London)

Session Classification: Session 1: New Detector Concepts