

## Perovskite quantum dots in liquid scintillator

Quantum dots are semiconducting crystals with dimensions on the order of nanometers. Due to quantum confinement, their size gives rise to optical properties that resemble those of single atoms, rather than bulk material. One of these is their absorption of light shorter than a characteristic wavelength and reemission in a narrow peak around that wavelength. An emergent class of these materials, perovskites, can emit in the UV range, at the peak quantum efficiency of a typical photomultiplier tube. This unique photoluminescence makes perovskites ideal wavelength shifters. Moreover, their chemistry and ease of synthesis provide a straight-forward method to suspend heavy elements in organic scintillators. The NuDot collaboration has been investigating the light yield of perovskite-doped liquid scintillator. A review of the current results will be presented.

### Authorship annotation

for the NuDot collaboration

### Session and Location

Wednesday Session, Poster Wall #153 (Hölderlin-Room)

### Poster included in proceedings:

yes

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**Track Classification:** Poster (participating in poster prize competition)