



Contribution ID: 14

Type: **not specified**

A μ SR study of ion dynamics in hybrid perovskites under illumination

Friday, 6 September 2024 13:45 (25 minutes)

Long charge carrier lifetimes are a key feature of hybrid organic-inorganic perovskites, contributing to their use in highly efficient solar cells. Ionic motion is considered to influence both the carrier lifetimes and the delicate structural stability of the perovskite framework. Our μ SR study on $(\text{CH}_3\text{NH}_3)\text{PbX}_3$ ($\text{X} = \text{Br}, \text{Cl}$) single crystals investigates these relationships by examining the relaxation of muon spins in local nuclear field environments as a function of temperature and illumination.

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Session Classification: Science Session

Track Classification: Pulsed Techniques