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EFFECT OF PEROVSKITE NANOCRYSTAL NUCLEATION SEEDS ON MICROSTRUCTURE AND CRYSTALLIZATION PATHWAYS IN ORGANIC-INORGANIC HALIDE PEROVSKITE THIN FILMS

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Organic-inorganic halide perovskites have gained a huge interest in the scientific community owing to their favorable optoelectronic properties combined with their ease of production and abundance of raw materials. [1] In many cases, polycrystalline thin films are used for which thin film crystallinity and morphology are key factors affecting the perovskite's properties. Various methods have been utilized to improving the mentioned factors [1] from which we present a novel approach employing external perovskite nanocrystals as seeds for printed thin films and present their influence on crystallization kinetics and microstructure based on in-situ grazing incidence wide angle X-ray scattering (GIWAXS) measurements conducted at beamline P03, PETRA III synchrotron DESY, Hamburg [2].

[1] C. Lin et al, Adv. Funct. Mater. 29., 1902582 (2019).
[2] A. Buffet et al, Journal of Synchrotron radiation, 19.4, 647-653 (2012)

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