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Preparation and characterization of methylammonium lead iodide perovskite absorber layers

Since their first mention by Miyasaka et al. in 2009 organo-metal halide solar cells have received much attention in the field of photovoltaics. This is due to the cheap production costs and high conversion efficiencies of up to 20% and above that were able to be achieved in a short time span. In this work we prepare and characterize the properties of methylammonium lead iodide absorber layers in order to obtain functioning solar devices. Characterization has been done employing techniques such as X-ray diffraction, Raman spectroscopy, photoluminescence, scanning electron microscopy and recently atomic force microscopy in order to improve the film morphology. Through variation of the production process film morphology was significantly improved.

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