**Link:** [https://solar-power-tech.com/e-posters/psc\_eposter\_08/](https://solar-power-tech.com/e-posters/psc_eposter_07/)

**Abstract**

Lead acetate (PbAc2) is one of many promising precursor materials to produce perovskite thin films for next-generation solar cells1,2. The work described here was carried out to produce an optimal lead acetate film to function as precursor for a high-quality methyl ammonium lead iodide (MAPI) film. Dipcoating was chosen as deposition method due to its scalability3. Optimization of the PbAc2 and MAPI films was carried out through controlled nucleation and growth4. The nucleation and growth processes were controlled by altering key parameters of the different production process stages, such as air humidity during the lead acetate deposition and methyl ammonium iodide (MAI) concentration when converting the PbAc2 film to MAPI. Characterization with SEM imaging revealed that the surface coverage and crystal size in the MAPI film increased significantly with an increase of MAI concentration in the conversion stage and an addition of N,N-dimethylformamide (DMF) vapor in the annealing stage. Preliminary solar cells were produced using these MAPI films as the active layer. The results show that the application exhibits potential, as well as some challenges to recognize and resolve before achieving the optimal performance of the device.