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Photoinduced thermoelectric transport in solution-processed semiconductors NELSON COATES, CSU Maritime, FAN YANG, AYASKANTA SAHU, JEFFREY URBAN, Lawrence Berkeley National Lab — The ability to fabricate semiconductor materials directly from solution offers a number of advantages over traditional semiconductor processing routes. In addition to the generally lower costs of manufacturing and ability to scale device to large areas, solution-based fabrication techniques also easily allow for extensive physical and chemical tuning of the processed materials. Here, we examine ways to tune the photoinduced thermoelectric transport in solution-processed semiconductors, and in particular explore ways to leverage some of the inherent characteristics of solution processed semiconductors (such as electronic inhomogeneity and large trap densities) to improve the photoinduced thermoelectric response in these materials.

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