Abstract Submitted
for the SES19 Meeting of
The American Physical Society

Probing spectral and directional emission properties of hybrid perovskite thin films[1] RAVI P.N. TRIPATHI, BIBEK S. DHAMI, UDDHAB TIWARI, KANNATASSEN APPAVOO, University of Alabama at Birmingham — Hybrid organic-inorganic perovskites have recently emerged as promising candidate for nanophotonics and optoelectronic applications. Here we fabricate large-grain hybrid perovskites thin films using a solution-processed technique, and probe its nanoscale emission properties using Fourier imaging microscopy. Furthermore, by spectrally mapping the emission properties of our films with sub-micron resolution, we observe strong dependence of emission properties on the film morphology. Effects of domain crystallinity, emission from defect states and photon recycling are discussed within the framework of Fourier imaging spectroscopy.

[1]This work was supported in part by the National Science Foundation under Grant 183289.

Ravi P.N. Tripathi
University of Alabama at Birmingham

Date submitted: 30 Sep 2019 Electronic form version 1.4