






Supplementary Materials: Giant Enhancement of Radiative Recombination in Perovskite Light-emitting Diodes with Plasmonic Core-shell Nanoparticles

Mikhail A. Masharin ^{1,‡}, Alexander S. Berestennikov ^{1,3‡} , Daniele Baretin ² , Pavel M. Voroshilov ^{1*} , Konstantin S. Ladutenko ¹, Aldo Di Carlo ³ , and Sergey V. Makarov ¹ 

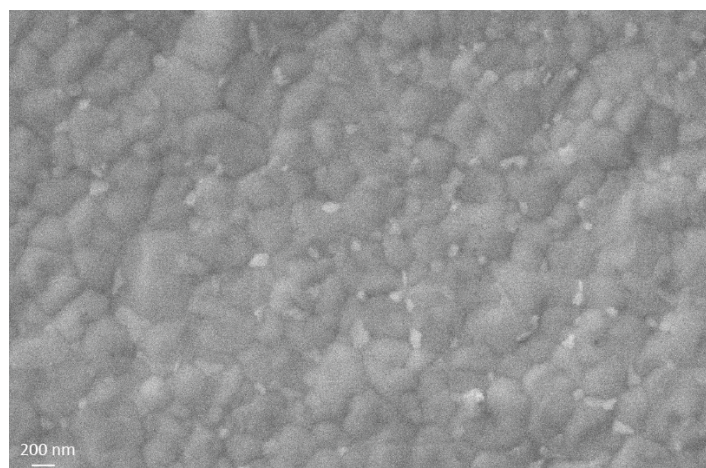


Figure S1. SEM image FAPbBr₂I film.

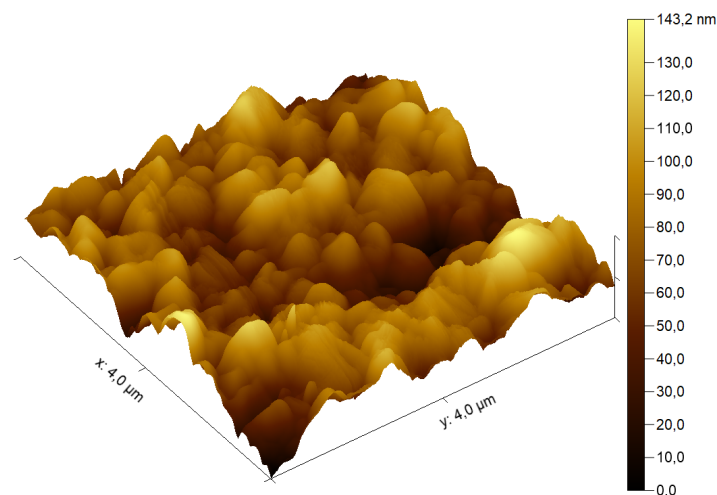


Figure S2. AFM image of FAPbBr₂I film.

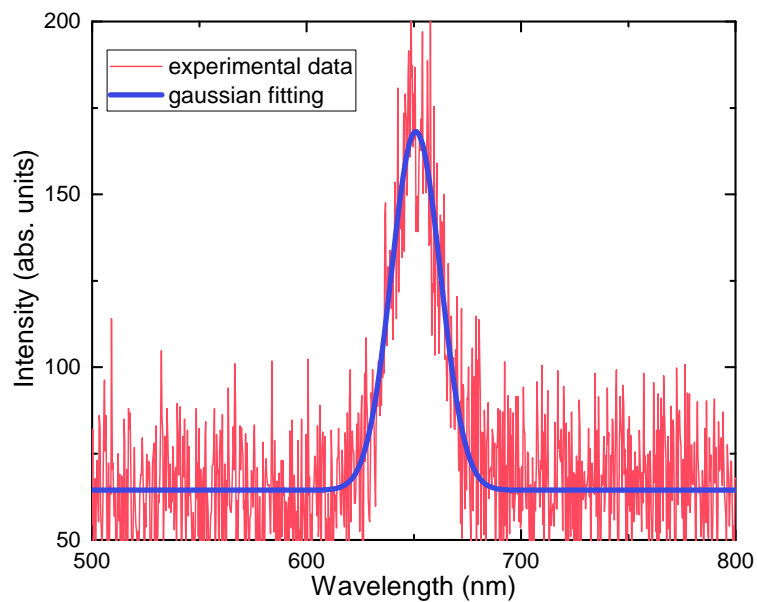


Figure S3. Measured electroluminescence spectra of FAPbBr₂I device at 2V.

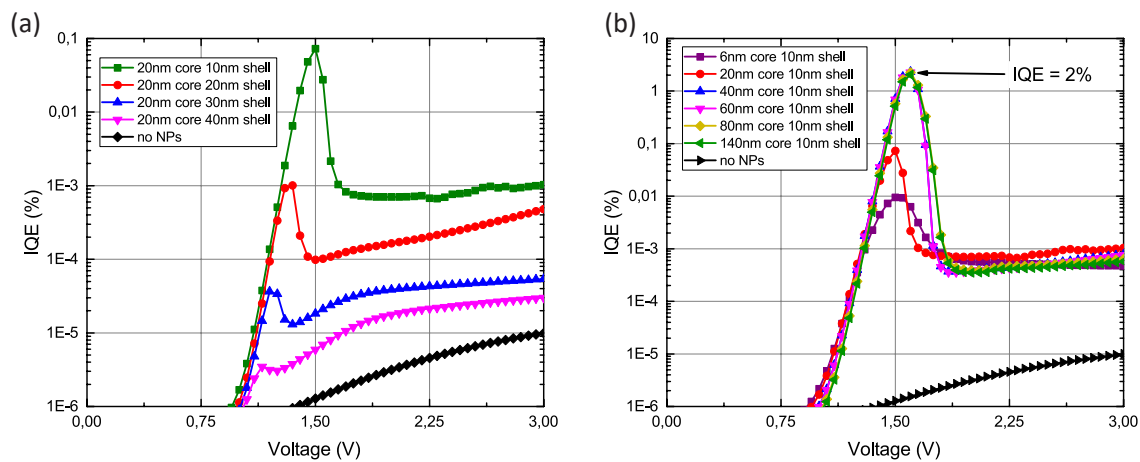


Figure S4. Calculated IQE characteristics for optimized architectures.

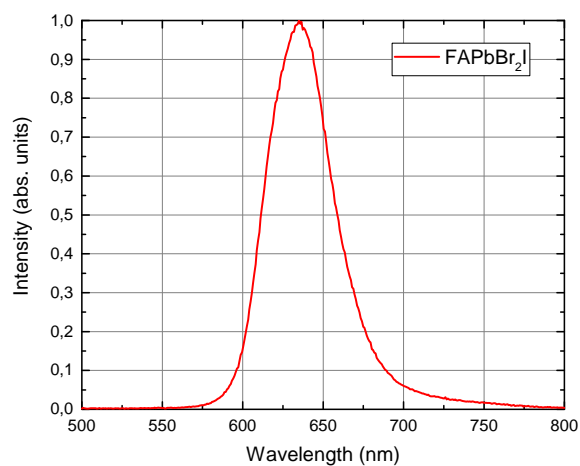


Figure S5. Measured photoluminescence spectra of FAPbBr₂I film.

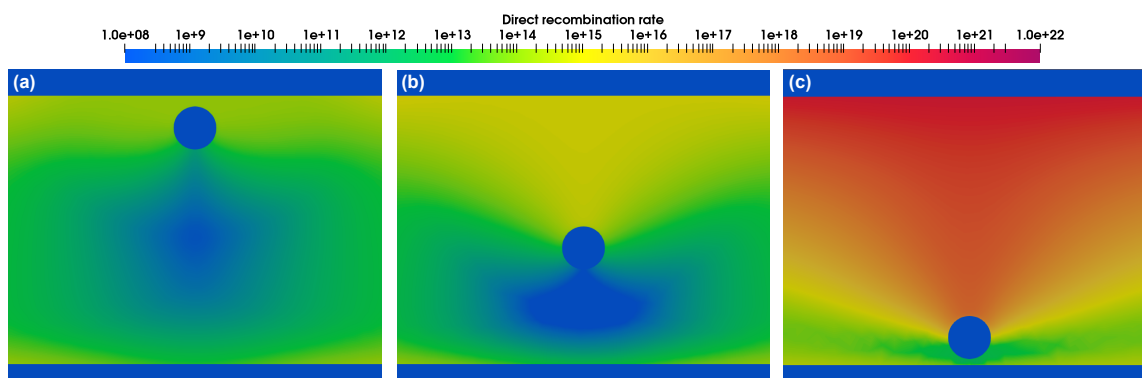


Figure S6. Radiative recombination rate for different core-shell nanoparticle location at 1.5V.

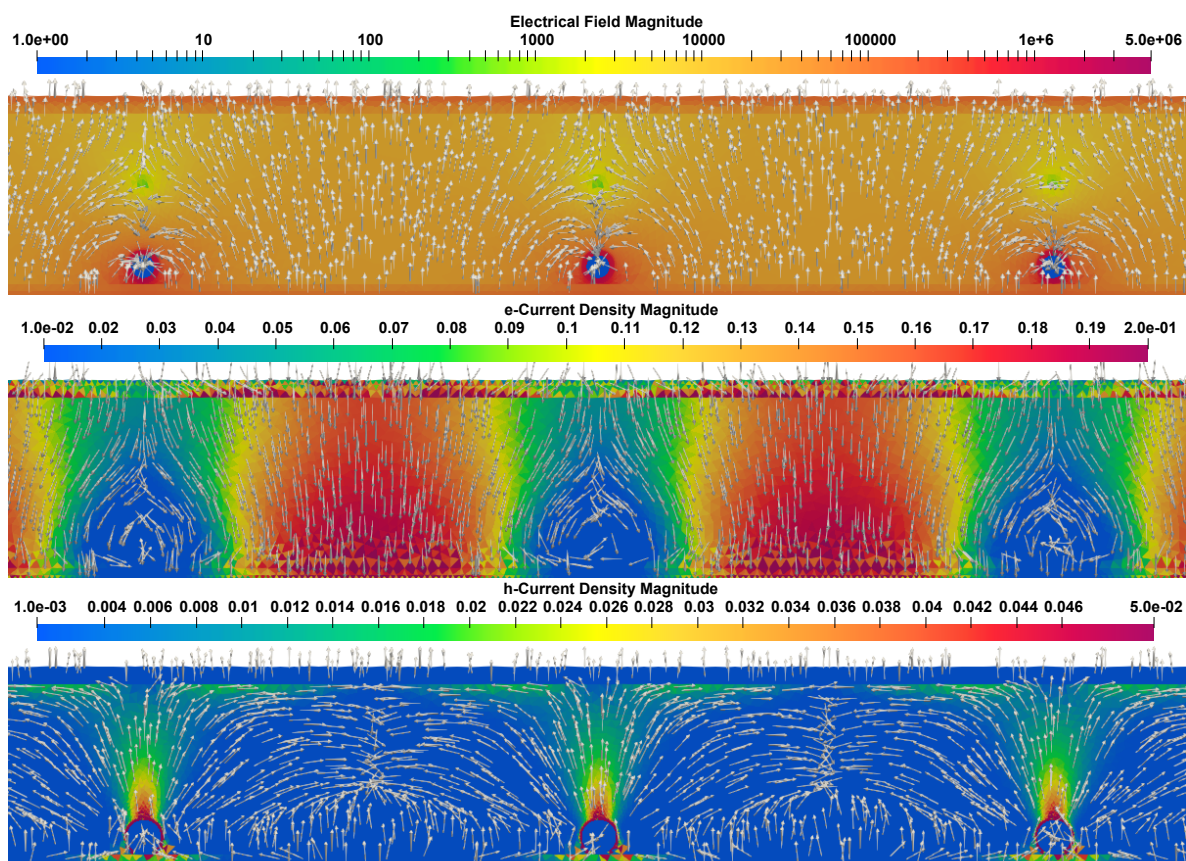


Figure S7. Electric field, electron and hole current density distributions for three nanoparticles.

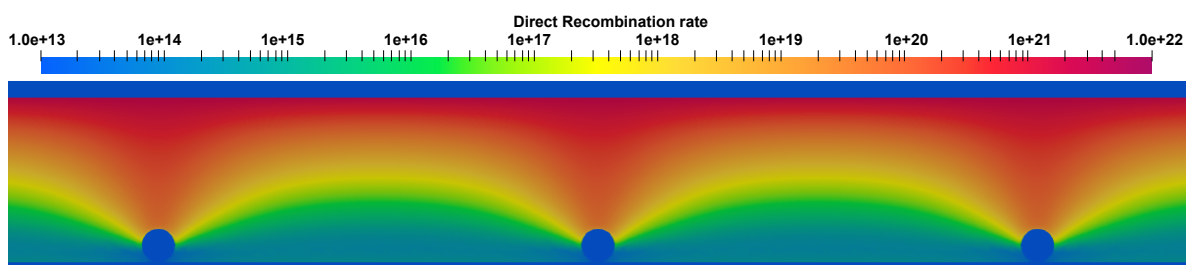


Figure S8. Radiative recombination rate for three nanoparticles.