

Abstract Submitted  
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**LaF<sub>3</sub>:Ce/CdTe nanocomposites for radiation detection application** MINGZHEN YAO, UT Arlington, PACIFIC NORTHWEST NATIONAL LABORATORY TEAM — Radiation detection demands new scintillators with high quantum efficiency, high energy resolution, and short luminescence lifetimes. Nanocomposites consisting of quantum dots and Ce<sup>3+</sup> doped nanophosphors may be able to meet these requirements. Here, we report the luminescence enhancement of LaF<sub>3</sub>:Ce/CdTe nanocomposites which were synthesized by a wet chemistry method. The results show that CdTe luminescence in LaF<sub>3</sub>:Ce/CdTe nanocomposites is enhanced about five times. Energy transfer, light reabsorption, and defect passivation are the likely reasons for the luminescence enhancement

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