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Research areas: Perovskite Solar Cells, Lead-Free

Perovskite Solar Cells, Nanomaterials



Title of the research: Synthesis, Fabrication and Characterization of Low cost and Environmental

Friendly Perovskite Solar Cells

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Current position: Research Scholar, Department of Physics, Coimbatore Institute of Technology,

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Description of current and past research:

For the past decade, lead halide perovskites have experienced impressive progress in photovoltaics with the certified power conversion efficiency over 25%, because of their remarkable optoelectronic properties. However, the environmental toxicity and material instability of the core lead halide materials would strongly limit their commercialization.

Within this scenario, research investigations focused to lead free and stable absorbing materials. Here, I am working on these concerns such as less toxic and stable perovskite materials as photon absorbing layer with long carrier diffusion length and high stability under moisture conditions. The novel perovskite material should have the optoelectronic properties as lead and it should fulfill our concerns mentioned.