

In-Situ Solar Simulation for Organic Photovoltaics

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Accurate simulation of the solar spectrum is a prerequisite for research into photovoltaic stability and efficiency. Organic photovoltaics (OPV) have gained popularity in recent years due to their low cost of production, physical flexibility, high tunability and light weight. As interest in OPV continues to grow, the need arises for solar simulation to be employed in increasingly diverse environments and in conjunction with techniques such as UV/Vis spectroscopy, mass spectrometry and Small-Angle Neutron Scattering (SANS). In this work, a solar simulator is designed which can illuminate up to three samples in parallel in the BILBY beamline. The solar simulator is of a modular design and based around a tungsten halogen light source used to replicate the solar spectrum. This light source can also be interchanged with sources of different wavelengths for use in applications such as photochemistry and the biomolecular sciences. We aim to show results for a typical OPV system in-situ with SANS on BILBY.

Level of Expertise

Student

Do you wish to take part in the poster slam

No

Travel Funding

No

Speakers Gender

Male

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