

# Unveiling of electronic diffusion at perovskite / carbon interfaces: Insights from DFT for Photo-Supercapacitor Development

## Content

The development of efficient devices to produce and store energy has increased due to the constant need for continuous improvement. The use of solar radiation is no exception to this need. In this research work, the objective is to show the electronic transmission from an active layer of a solar cell (methylammonium lead iodide perovskite, tetragonal phase) using  $C_{60}$  fullerene as the electron transmission layer (ETL) to graphite sheets, the latter acting as the common electrode of a supercapacitor. The design of this device aims to emulate a photosupercapacitor consisting of a solar cell (perovskite +  $C_{60}$ ) and a common electrode (graphite sheet). The design of this device aims to emulate a photosupercapacitor consisting of a solar cell (perovskite +  $C_{60}$ ) and a common electrode (graphite sheet). The study of the device and its electronic transport was possible with the support of density functional theory and the nonequilibrium Green function equation.

## Tipo de presentación

Póster

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