

Hybrid Photothermal Materials as Hot-coatings

Photothermal materials are capable of absorbing light and convert into heat. They can be used in solar evaporators or anywhere where heat would be essential. photothermal materials derived from 2D materials. These materials are considered potential partial-coating materials on thermoelectric (TE) materials in order to create a temperature gradient for the TEs to operate. However, while having a good photothermal conversion character, they should have no electrical conductivity as this would short the TE circuit.



A patch photohermal hybrid material under sunlight.

In this bachelor thesis project, the student will participate in the preparation of hybrid photothermal materials by blending 2D materials with selected polymers. A systematic study on the heat levels achieved under different light conditions, and the electrical conductivity of the photothermal material will be studied. The project is, therefore, mainly experimental implementation.

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