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Surface Functionalization of 2D Materials for Energy Applications

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Abstract :

One of the major challenges in the energy field for affordable sustainable technologies is the development of efficient catalysts and photoactive materials. Two-dimensional (2D) nanomaterials have been widely studied in several applications in the energy field, acting both as supports for anchoring various nanostructures as well as active elements in many catalytic and optoelectronic processes. This talk will present some recent advances related to the functionalization of 2D nanomaterials (graphene oxide and MoS_2) aiming to obtain efficient supported catalysts for energy applications. Additionally, the surface modification of black phosphorus (BP) with nitrogen will be highlighted as a tool to improve its stability, thus opening the way for practical applications which have not been possible yet due to its high degradation in ambient conditions.