

## PHOTOELECTRON DIFFRACTION AND HOLOGRAPHY STUDIES OF 2D MATERIALS AND INTERFACES

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Photoelectron diffraction (XPD) and holography (XPH) are powerful spectroscopic methods that allow comprehensive exploration and characterization of certain structural properties of materials, in particular those of 2D systems and interfaces. Recent developments in XPD and XPH are especially impressive when they are applied to partially disordered systems such as intercalation compounds, doped graphene, buffer layers or adsorbates. In our brief review, we sum up the advances in XPD and XPH studies of 2D materials and discuss the unique opportunities granted by these two interrelated methods. XPD and XPH are powerful tools with their own range of applications, which provide in most cases rather unique information that is not available from other kinds of studies. In the future, one may anticipate rapid development of these techniques as they reach submicron lateral resolution that will allow overcoming the restrictions related to single-crystalline substrates.

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