

## Raman studies of graphene films grown on 4H-SiC subjected to deposition of Ni

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Raman spectroscopy is used to evaluate the structural perfection of epitaxial graphene films before and after deposition of a Ni layer to their surface by magnetron sputtering. Two deposition modes with different gas pressures and deposition times are investigated. It is found that Ni deposition under low pressure combined with long deposition time does not lead to the separation of graphene/Ni film. On the other hand, higher pressure and shorter deposition time results in successful but uncontrollable exfoliation of graphene together with the Ni film. The results obtained will serve as the basis for the optimization of Ni deposition modes, in order to achieve complete exfoliation of the graphene film from the SiC substrate without damaging the graphene layer.

**Keywords:** graphene, Ni, 4H-SiC, magnetron sputtering, defects, Raman spectroscopy

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