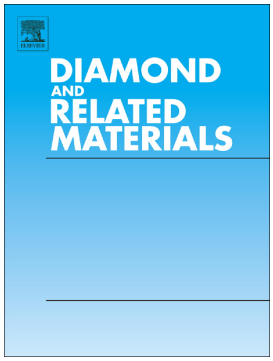

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Fabrication of graphene on atomically flat diamond (111) surfaces using nickel as a catalyst

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Abstract

We fabricated graphene on atomically flat diamond (111) surfaces via annealing with nickel as a catalyst. The annealing was conducted at 900°C for 1 min under Ar atmosphere. Using Raman spectroscopy, the formed graphene was characterized as multilayer with some monolayer coverage. After the graphene layers were removed, the diamond (111) surfaces exhibited step-terrace structures with a root-mean-square roughness of 0.05 nm in the terrace region. The step height was ~0.21 nm, which agreed