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【236】Electronic properties of hexagonal Boron Nitride on Pt(110)

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The electronic properties of a hexagonal Boron Nitride (h-BN) monolayer on Pt(110) were investigated by ARUPS and compared to DFT-calculations. A work function change of about
-0.74 eV between the h-BN covered Pt(110) surface compared to pristine Pt(110) indicates a net charge transfer from h-BN to Pt. The measured electronic band structure is similar to previously reported band dispersions of h-BN monolayers on transition metals (e.g. Pd(111)[1]) as expected for a weakly interacting adlayer. Due to the (1x5) missing-row-reconstruction of the h-BN/Pt(110) surface, additional umklapp bands in the dispersion plot can be found, which have not been reported on Pt(110) yet [2].
[1] Morscher et al. Surf. Sci. 600 (2006) 3280–4
[2] Achilli et al. Nanotechnology 29 (2018) 485201

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