

FERMI EDGE SINGULARITY IN XRAY STUDIES OF GRAPHENE.

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We present a model to describe shake up effects in X-ray photoemission spectra from a monolayer of Graphene absorbed on a substrate of Ni(111).

Using the tight binding method, we determine the effect of the suddenly created core hole, in the 1s-state of a carbon atom, on the many electron states of π and π^* bands.

We compare our results with the asymmetric lineshapes measured from bundles of clean single-walled carbon nanotubes, specifically examining the energy distributions of many body excitations created at the expense of the photoelectron in (10, 10) and (16, 0) tubes.

We discuss the variation of the core hole propagator either in graphene or in nanotubes of different chirality. We show a good agreement of the theory and the experiments.

References:

References

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