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Giant inelastic tunneling in epitaxial grapheme mediated by localized states KEES FLIPSE, KEVIN RUIT VAN DE, Eindhoven University of Technology, JIRI CERVENKA, Academy of Sciences of the Czech Republic — Local electronic structures of nanometer-sized patches of epitaxial grapheme and its interface layer with SiC(0001) have been studied by atomically resolved scanning tunneling microscopy and spectroscopy. Localized states belonging to the interface layer of the grapheme/SiC system show to have essential influence on the electronic structure of grapheme. Giant enhancement of inelastic tunneling, reaching 50% of the total tunneling current, has been observed at the localized states on a nanometer-sized grapheme monolayer surrounded by defects.

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