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Extended Electronic States above Diskoid Nanostructures ARTEM BASKIN, PETR KRAL, University of Illinois at Chicago, HOSSEIN SADEGHPOUR, Institute for Atomic, Molecular and Optical Physics, Harvard-Smithsonian Center for Astrophysics — We demonstrate that charged graphene nanostructures, which can be modeled as charged metallic nanodisks, can support spatially extended electronic states with binding energies of 50-200 meV. In the case of high angular momenta these states can be highly separated from the disk surfaces, in analogy to image states above carbon nanotubes observed experimentally. We present the single-electron and approximate multi-electron wavefunctions.

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