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**Experimental signatures of topological defects in graphene** AN-DREW IYENGAR, HERBERT FERTIG, Indiana University, LUIS BREY, Instituto de Ciencia de Materiales de Madrid — We study the electronic structure of graphene with topological defects, in which some of the hexagonal plaquettes of the honeycomb lattice are replaced by pentagons or heptagons. Our tight-binding calculations show that the local electronic density of states becomes particle-hole asymmetric in the vicinity of such defects. This provides a means of experimentally distinguishing so-called “plastic” curvature from elastic deformation. We evaluate various analytic approaches to these defects and discuss their effects on scattering and transport.

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