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Current Quantization in Corrugated Graphene Nanoribbons UPALI APARAJITA, OLEKSIY ROSLYAK, GODFREY GUMBS, Physics & Astronomy Department, Hunter College, CUNY, DANHONG HUANG, USAF Research lab, Kirtland AFB, NM — Corrugated graphene provides such a phenomenon as curvature induced $p-n$ junction band gap opening and decoherence. We report yet another effect of current quantization in graphene nanoribbons via energy minigaps induced by the corrugation. Effects of edge roughness and long range charged scatterers on the quantization are investigated. Comparison is drawn with acoustically induced minigaps in carbon nanotubes [Talyanskii et al.,PRL 87,276082(2001)].

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Upali Aparajita
aupali@gmail.com
Physics & Astronomy Department, Hunter College, CUNY

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