Abstract Submitted
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Magnetic Coupling Between Transition Metal Chains Via Graphene Nanoribbons[1] S. VINCENT ONG, R. ROBLES, S.N. KHANNA, Virginia Commonwealth University, DEPARTMENT OF PHYSICS, VIRGINIA COMMONWEALTH UNIVERSITY TEAM — Graphene nanoribbons have generated much interest due to their unique electronic and magnetic properties. Current theoretical research has suggested that nanoribbons may have possible applications in spintronics devices. Dangling bonds at the zigzag ribbon edges have often been studied by saturation with hydrogen. We have carried out first principles theoretical studies on zigzag graphene nanoribbons of varying widths doped with 3d-elements. Our results indicate an unconventional magnetic coupling between the chains mediated via the carbon lattice. The stability of the system, magnetic ground state, and transport properties will be presented.

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