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The Magnetic Properties of Zigzag Boron Carbon Carbon Nitride Nanoribbon[1] J. RUFINUS, Science Division, Widener University — Recently, substantial theoretical and experimental efforts have been made in the quest to find the candidates for future spintronic devices. Two-dimensional graphene-based structures have attracted much attention in the search for new spintronic materials due to some theoretical predictions that this type of materials show the half-metallic property. Here we present the results of an ab-initio self consistent density functional theory within a generalized gradient approximation of zigzag Boron Carbon Carbon Nitride Nanoribbon (ZBC2NNR). The result of our calculations shows different magnetic orderings. In general, however, we found that narrow ZBC2NNR prefers a magnetic state which depends on the shape and the orientation of the atoms on its edges.

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