

Abstract Submitted  
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**First principles study of transport properties of pristine and passivated bilayer graphene nanoribbons** XIAOLIANG ZHONG, RAVINDRA PANDEY, Michigan Technological University, SHASHI KARNA, Army research Laboratory — Transport properties of pristine and hydrogen passivated bilayers of zigzag-edged graphene nanoribbons (ZGNRs) coupled with gold electrodes are investigated using first-principles methods based on density-functional theory. The calculated ground state of the passivated bilayer 6-ZGNRs is non-magnetic and the antiferromagnetic coupling is energetically preferred for the pristine counterpart. The results of the bias and spin-dependent electron transmission and current calculated using the nonequilibrium Green's function formalism will be presented. The role of interlayer interaction in determining the I-V characteristics of bilayer graphene nanoribbons will also be discussed.

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