

Abstract Submitted  
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**Electronic Band Engineering of Epitaxial Graphene  
by Atomic Intercalation** THUSHARI JAYASEKERA, Department  
of Physics, Southern Illinois University, Carbondale, IL, 62901, AN-  
DREAS SANDIN, SHU XU, Department of Physics, North Carolina  
State University, Raleigh, NC 27695, VIRGINIA WHEELER, D.K.  
GASKILL, U.S. Naval Research Laboratory, Washington, DC 20375,  
J.E. ROWE, Department of Physics, North Carolina State University,  
Raleigh, NC 27695, K.W. KIM, Department of Electrical and Com-  
puter Engineering, North Carolina State University, Raleigh, NC 27695,  
DANIEL B. DOUGHERTY, M. BUONGIORNO NARDELLI, Depart-  
ment of Physics, North Carolina State University, Raleigh, NC 27695  
— Using calculations from first principles, we have investigated possible  
ways of engineering the electronic band structure of epitaxial graphene  
on SiC. In particular, intercalation of different atomic species, such as  
Hydrogen, Fluorine, Sodium, Germanium, Carbon and Silicon is shown  
to modify and tune the interface electronic properties and band align-  
ments. Our results suggest that intercalation in graphene is quite differ-  
ent from that in graphite, and could provide a fundamentally new way  
to achieve electronic control in graphene electronics.

Thushari Jayasekera  
Department of Physics, Southern Illinois University,  
Carbondale, IL, 62901

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