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Investigation of using N and P Doped Graphene to Fabricate a Transistor KYLE JOSEPH DRAKE, Stephen F. Austin State University — The atomic structure of graphene causes it to have a zero-energy band gap, where its valence and conduction bands meet at the Dirac point. By doping the graphene, a band gap can be created and it can then be used as a semiconductor similar to silicon. Nitrogen and Boron doped graphene will be used as n-type and p-type semiconductor materials to fabricate n-p-n transistors. The graphene will be doped with nitrogen to be the n-type semiconductor and boron to be the p-type semiconductor. This will be done by chemical vapor deposition (CVD) methods.

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