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Abstract for an Invited Paper  
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### **Fabrication and Applications of Tubular Semiconductor Membranes<sup>1</sup>**

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We present transport measurements on curved semiconductor membranes. The aim is to investigate geometric potentials in low dimensional electron systems. We have conducted first studies on topography dependant electron transport in complete tubes, using built in strain between lattice mismatched semiconductors. We will discuss the processing details in SiGe and InGaAs strained layers. Initial studies reveal two regimes of electron transport which are probed by a varying perpendicular magnetic field. At low magnetic field, we see an increase in electron scattering along curved regions due to an increase in electron scattering. At high magnetic field, we find a linear increase in resistance of the curved region as compared to planar regions. Finally, we will give an outlook into possible applications in nano-electromechanical systems.

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