1154-78-630   **Jichun Li***, Department of Mathematical Sciences, University of Nevada Las Vegas, Las Vegas, NV 89154-4020. *Finite element analysis and simulation of surface plasmon polaritons in graphene.*

Graphene was invented in 2004. Due to its outstanding electrical, mechanical, magnetic, and thermal properties, graphene has gained significant interest among scientists as evidenced by the award of Nobel Prize in Physics 2010 to two graphene experts. In this talk, I will focus on the development and analysis of a mathematical model for simulating the surface plasmon polaritons. Finite element method for solving this model will be presented. Finally, I will show some numerical simulations. (Received September 09, 2019)