1171-81-125 **Eric Stachura*** (estachur@kennesaw.edu), Department of Mathematics, Kennesaw State University, 850 Polytechnic Lane, Marietta, GA 30060, and **Nick Hancock**. *Bound states and energy eigenvalues of a radial screened Coulomb potential.*

Screened Coulomb potentials arise in various aspects of physics, including modeling strong interactions between nucleons or describing forces applied on each nucleon. I will discuss joint work with an undergraduate student, N. Hancock, analyzing a screened radial Coulomb potential that was recently introduced in the context of Time Dependent Density Functional Theory. In particular, I will discuss the existence of bound states for this potential in various dimensions and show how the so-called hypervirial relations can be used to obtain eigen-energies for a Hydrogen atom with this potential. Finally, I will appeal to a sharp estimate for a modified Bessel function to estimate the ground state energy of such a system. (Received August 09, 2021)