1138-65-57   **Vani Cheruvu*** (`vani.cheruvu@utoledo.edu`), Department of Mathematics and Statistics, The University of Toledo, Toledo, OH 43606. *Spectra of boundary integral operators defined on the unit sphere for the modified Laplace equation.*

We consider a modified Laplace equation on a unit sphere. Spherical harmonics are used for the expansion of the unknown function. We show that on the unit sphere, both modified Laplace single and double layer operators diagonalize in spherical harmonic basis. The analytic expressions for evaluating the operators away from the boundary are also derived. Currently, we are working on the numerical aspects. In this talk, we present both the analytical and numerical results of our work. (Received February 12, 2018)