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Neil Jerome A. Egarguin* (naegarguin1@up.edu.ph), Houston, TX, and **Daniel Onofrei** and **Eric Platt**. *Active Control of Acoustic Fields using Almost Non-Radiating Sources*.

In this talk, we present a sensitivity analysis of our numerical scheme for the active control of the three-dimensional Helmholtz equation in the case of an almost non-radiating source with controllable near fields. We consider a free space environment containing an almost non-radiating source. This source is set to generate a prescribed pattern in a near field control region and a very low field amplitude beyond a fixed radius.

The desired field is generated using a method of moments and a Morozov regularization routine. To make the numerics more accurate, the moments were computed using a truncated series representation of the fundamental solution of the Helmholtz equation involving spherical harmonics, spherical Hankel and spherical Bessel functions. We study the accuracy of this scheme with respect to different variations in the size of the near control and its distance from the source. This includes analysis of the stability measure for the solution, the over-all power on the source, the L^2 -relative error on the near control and the L^∞ - error on the far field. We will consider the case of a single source and of arrays (collection of compact regions along a line and a plane). (Received September 25, 2018)