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**Alfonso Castro\*** ([castro@g.hmc.edu](mailto:castro@g.hmc.edu)), Department of Mathematics, Harvey Mudd College, Claremont, CA 91711, and **Emily Fischer**. *Rotationally symmetric solutions for a semilinear Laplace-Beltrami equation on spheres.*

We prove the existence of infinitely many regular rotationally symmetric solutions for a semilinear Laplace-Beltrami equation on spheres with superlinear non-linearity. A Pohozaev type identity is obtained which yields necessary growth conditions. The critical exponent arising in this process exceeds the one for radial solutions in balls of  $\mathbb{R}^n$ . (Received September 02, 2014)