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David Wiygul* (dwiygul@uci.edu). *Mass estimates for static vacuum extensions of nearly Euclidean spheres.*

An interesting boundary value problem posed on the exterior of the unit ball in Euclidean space asks for an asymptotically flat static vacuum metric which induces on the boundary sphere a prescribed metric and mean curvature. I will present recent and ongoing work to estimate the ADM mass of certain such metrics with boundary data close to that of the standard unit Euclidean sphere, as well as implications for the Bartnik mass of such data. (Received February 05, 2018)