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Erik Lundberg* (elundber@fau.edu). *The Khavinson-Shapiro conjecture: a call to arms.*

Ellipsoids possess many surprising potential theoretic properties. One nice property is that the solution to the classical Dirichlet problem for Laplace's equation posed on an ellipsoid with polynomial data turns out to be a polynomial. In 1992, D. Khavinson and H.S. Shapiro further showed that the solution is entire (that is extends as an entire function of several complex variables) if the data is entire. They conjectured that these two properties (polynomial solvability for polynomial data and entire solvability for entire data) each characterize ellipsoids. We will speculate on how to approach the cases that remain open after the progress made by H. Render in 2008. (Received September 21, 2017)