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Ailana Fraser* (afraser@math.ubc.ca), University of British Columbia, and **Richard Schoen**, U.C. Irvine. *Extremal questions for Steklov eigenvalues in higher dimensions*. Preliminary report.

In the two-dimensional case we proved that for any compact surface of genus zero with boundary there exists a metric that maximizes the first eigenvalue of the Dirichlet-to-Neumann map, among all metrics of fixed boundary length, and that the maximum of the first eigenvalue is strictly increasing in k and tends to 4π as the number of boundary components k tends to infinity. In this talk we will discuss similar questions in higher dimensions. (Received September 25, 2017)