

1087-31-147

Edward B Saff*, edward.b.saff@vanderbilt.edu. *Riesz polarization on manifolds*. Preliminary report.

We derive bounds and asymptotics for the maximum Riesz polarization quantity

$$M_n^p(A) := \max_{\mathbf{x}_1, \mathbf{x}_2, \dots, \mathbf{x}_n \in A} \min_{\mathbf{x} \in A} \sum_{j=1}^n \frac{1}{|\mathbf{x} - \mathbf{x}_j|^p}$$

for quite general sets $A \subset \mathbb{R}^m$ with special focus on the unit sphere and unit ball. We also discuss the recent solution of the Ambrus, Ball and Erdelyi polarization conjecture for the unit circle. Some of the work presented is joint with T. Erdelyi, D. Hardin, and A. Kendall. (Received December 02, 2012)