1087-41-146 **Sergiy V Borodachov*** (sborodachov@towson.edu), Towson University, Towson, MD, **Doug P Hardin**, Vanderbilt University, Nashville, TN , and **Edward B Saff**, Vanderbilt University, Nashville, TN. *Asymptotically d-energy minimizing sequences of configurations on d-dimensional sets.*

We obtain conditions for a sequence $\{\omega_N\}_{N\in\mathcal{N}}$ of N-point configurations on a Jordan measurable compact set A in $\mathbf{R}^d$ under which the leading term (as $N \in \mathcal{N}$ gets large) of the Riesz d-energy of ω_N equals the leading term of the minimum N-point Riesz d-energy of A. This condition is, in particular, satisfied by any sequence of configurations on the set A of the form $\omega_N = (\sigma_N Y) \cap A$, $N \in \mathbf{N}$, where $\lim_{N\to\infty} \sigma_N = 0$ and $Y \subset \mathbf{R}^d$ is any full-rank lattice or any periodic set (a union of finitely many shifts of a full-rank lattice). The set Y can also be any infinite point set in $\mathbf{R}^d$ with positive infimum of pairwise distances whose density $\Delta(Y; x, R)$ in a cube with center x and sidelength R converges uniformly (over $x \in \mathbf{R}^d$) to a finite and positive constant as $R \to \infty$. We also obtain sufficient conditions for sequences of point configurations on a certain class of manifolds in $\mathbf{R}^p$, $p > d$, to be asymptotically d-energy minimizing. (Received December 02, 2012)