1015-31-142 **Doug Hardin*** (doug.hardin@vanderbilt.edu), Department of Mathematics, Vanderbilt University, Nashville, TN 37072, **Edward B Saff** (edward.b.saff@vanderbilt.edu), Department of Mathematics, Vanderbilt University, Nashville, TN 37072, and **Herbert Stahl** (stahl@tfh-berlin.de), TFH-Berlin/FBII, Luxemburger Strasse 10, 13353 Berlin, Germany. *The support of the logarithmic equilibrium on revolutionary sets in* $\mathbf{R}^3$.

For surfaces of revolution B in $\mathbf{R}^3$, we investigate the limit distribution of minimum energy point masses on B that interact according to the logarithmic potential $\log(1/r)$, where r is the Euclidean distance between points. We show that such limit distributions are supported only on the "out-most" portion of the surface (e.g., for a torus, only on that portion of the surface with positive curvature). Our analysis proceeds by reducing the problem to the complex plane where a non-singular potential kernel arises whose level lines are ellipses. (Received February 02, 2006)