1161-60-295 **Eyal Lubetzky**, **Itai Benjamini** and **Yuval Peled***, yp24@nyu.edu. *Minimum Weight Disk Triangulations and Fillings.*

We study the minimum total weight of a disk triangulation using vertices out of $\{1,\ldots,n\}$, where the boundary is labeled (123) and the $\binom{n}{3}$ triangles have independent rate-1 exponential weights.

We show that, with high probability, the minimum weight is $(c_1+o(1))]\log n/\sqrt{n}$ for an explicit constant $c_1$, and that it is attained by a triangulation that consists of $(1/4+o(1))\log n$ vertices with distinct labels.

In addition, we prove that, with high probability, the minimum weights of a homological filling and a homotopical filling of the cycle (123) are both attained by the minimum weight disk triangulation. (Received August 18, 2020)