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# Matrix models from black hole geometries

Supersymmetric and magnetically charged black holes in AdS4 are known to be holographically dual to 3d SCFTs compactified on a Riemann surface.
In the last decade, many observables have been computed on both sides and a remarkable matching has been achieved.
In field theory, the partition function is computed via localization, and it reduces to a matrix model whose eigenvalues, at large N, become continuously distributed according to a function called eigenvalue density.
In this work we provide a gravitational interpretation of this eigenvalue density from the near-horizon geometry of the black holes, and illustrate it on various examples.

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