

## Dilatonic black holes and the weak gravity conjecture

We discuss the weak gravity conjecture (WGC) from black hole entropy in the Einstein-Maxwell-dilaton system or string theory. The WGC is strongly motivated by theorems forbidding global symmetries which arise in the vanishing-charge limit, and implies the fact that not only all non-BPS black holes but also extremal one without supersymmetry should be able to decay. It is shown that the large extremal black holes are unstable to decay to smaller extremal ones in the Einstein-Maxwell theory at least. We would demonstrate whether the WGC is satisfied or not in the string theory by computing corrections to the Bekenstein-Hawking entropy of a dilatonic black hole.

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