Horizon Instability of Extremal Charged Black Holes: Enhanced Growth for Charged Scalar Perturbations PETER ZIMMERMAN, University of Arizona — We investigate the stability of highly charged Reissner-Nordstrm black holes to charged scalar perturbations. We show that the near-horizon region exhibits a transient instability which becomes the Aretakis instability in the extremal limit. The growth rates obtained match the enhanced rates of nonaxisymmetric perturbations to the near-extremal and extremal Kerr solutions. The agreement is shown to arise from a shared near-horizon symmetry of the two scenarios.

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