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Positive energy and stability of black holes KARTIK PRABHU, ROBERT WALD, The University of Chicago — Hollands and Wald showed that dynamic stability of stationary axisymmetric black holes is equivalent to positivity of canonical energy on a space of linearised axisymmetric perturbations satisfying certain boundary and gauge conditions. We show that the "kinetic energy" — the energy of the perturbations that are odd under reflection in t and ϕ — is positive. We discuss implications of having a positive kinetic energy for proving exponential growth in the case where the "potential energy" can be made negative.

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