General Relativity and Quantum Cosmology

On the instability of Reissner-Nordstrom black holes in de Sitter backgrounds

Vitor Cardoso, Madalena Lemos, Miguel Marques

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Recent numerical investigations have uncovered a surprising result: Reissner-Nordstrom-de Sitter black holes are unstable for spacetime dimensions larger than 6. Here we prove the existence of such instability analytically, and we compute the timescale in the near-extremal limit. We find very good agreement with the previous numerical results. Our results may me helpful in shedding some light on the nature of the instability.

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