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Title: Stability of quasiblack holes, quasinonblack holes and regular black holes

**Abstract:** A quasiblack hole is a highly compact star on the verge of forming a horizon, but never gets to the black hole state. A quasinonblack hole is a regular black hole on the verge of having its event horizon disappearing, but can never be a star. A regular black hole is a black hole with no singularities, in general it has matter in its central parts. Through a comprehensive electrically charged spherical symmetric exact solution in general relativity it is possible to make a robust stability analysis of all these objects against radial perturbations. It is found that quasiblack holes formed from extremal charged matter are stable, other types of quasiblack holes are unstable. It is found that quasinonblack holes with special features and with reasonable values of the perturbation adiabatic index are stable. It is also found that some regular black holes can be stable against these perturbations.

Collaborators: This work is in collaboration with Angel Masa and Vilson Zanchin of Universidade Federal do ABC, São Paulo, Brazil.