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Title: Mass inflation in classical and semiclassical gravity

Abstract: We analyse the geometry of a spherically-symmetric black hole which has both an outer and inner apparent horizon, and is perturbed by collapsing thin shells of matter. On a classical level we observe that the mass inflation instability is triggered, and we compare the inner structure of the mass-inflated region with previous results obtained with perturbations in the form continuous fluxes of matter. We then perform an approximate calculation of the semiclassical backreaction around the inner apparent horizon. We find that the classical tendency for this horizon to move inward, present due to mass inflation, is challenged by a semiclassical tendency for it to evaporate outward.