

Non-compactness Horizon Black Holes at Ultra-Spinning Limit

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Abstract

By employing hyperboloid membrane limit and ultra-spinning limit we found novel classes of black holes having a noncompact event horizons. These limits can be understood as a sort of simple generating solution technique. We investigate the geometric structure of the obtained new black hole/membrane solutions including their horizon and conformal boundary. Also we explore the extremity conditions and the near horizon limit under both ultra-spinning limits. We also demonstrate the ultra-spinning black holes, despite the non-compactness of their horizons, exhibit the well-defined Kerr/CFT correspondence.