

# Extremal charged Vaidya and its near horizon geometry

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## Abstract

Recently d-dimensional spherically symmetric charged Vaidya black hole solution has been constructed. We observe that this nonstationary solution admits extremal limit and study its near horizon geometry. We show that the symmetry of the near horizon geometry is  $SO(2, 1) \times SO(d-1)$ . Our analysis shows that the theorems for the near horizon geometry of stationary extremal black holes, may be extended to nonstationary cases.

**Keywords:** Nonstationary black hole, Apparent horizon, Near horizon geometry.