

- A probe fermion has a near-horizon Green's function at $T = 0$ of the form

$$G(\tau) \sim \begin{cases} -\tau^{-2\Delta} & \tau > 0 \\ e^{-2\pi\mathcal{E}}(-\tau)^{-2\Delta} & \tau < 0 \end{cases}, \quad T = 0$$

where Δ is the fermion scaling dimension. The *particle-hole asymmetry* is determined by the dimensionless electric field \mathcal{E} at the surface of the black hole.

- At $T > 0$ this has the conformal form

$$G(\tau) = -A \frac{e^{-2\pi\mathcal{E}T\tau}}{\sqrt{1 + e^{-4\pi\mathcal{E}}}} \left(\frac{T}{\sin(\pi T\tau)} \right)^{2\Delta}, \quad 0 < \tau < 1/T.$$