

## High Energy Physics - Theory

# Acoustic black holes for relativistic fluids

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We derive a new acoustic black hole metric from the Abelian Higgs model. In the non-relativistic limit, while the Abelian Higgs model becomes the Ginzburg-Landau model, the metric reduces to an ordinary Unruh type. We investigate the possibility of using (type I and II) superconductors as the acoustic black holes. We propose to realize experimental acoustic black holes by using spiral vortices solutions from the Navier-stokes equation in the non-relativistic classical fluids.

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