

Gaussianity revisited - DTU Orbit (09/11/2017)

Gaussianity revisited: exploring the Kibble–Zurek mechanism with superconducting rings

In this paper we use spontaneous flux production in annular superconductors to shed light on the Kibble–Zurek (KZ) scenario. In particular, we examine the effects of finite size and external fields, neither of which is directly amenable to the KZ analysis. Supported by 1D and 3D simulations, the properties of a superconducting ring are seen to be well represented by analytic Gaussian approximations which encode the KZ scales indirectly. Experimental results for annuli in the presence of external fields corroborate these findings.

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