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Kibble-Zurek Scaling: Universality and scaling ANUSHYA CHANDRAN, Princeton University, AMIR EREZ[1], Ben-Gurion University, SHIVAJI L. SONDHI, STEVEN S. GUBSER, Princeton University — Near a critical point, the equilibrium relaxation time of a system diverges and any change of control/thermodynamic parameters leads to non-equilibrium behavior. The Kibble-Zurek (KZ) problem is to determine the dynamical evolution of the system parametrically close to its critical point when the change is parametrically slow. We formulate the KZ problem as a scaling limit and compute its universal content analytically (critical exponents+scaling functions) in a few classical and quantum models. We also use gauge-gravity duality to compute KZ response functions in more exotic critical theories.

[1]Equal contribution

[X] Prefer Oral Session
[ ] Prefer Poster Session

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