

Abstract Submitted  
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**Scaling Theory of the Mott Transition and Breakdown of the Grüneisen Scaling Near a Finite-Temperature Critical End Point** LORENZ BARTOSCH, University of Frankfurt — We discuss a scaling theory of the lattice response in the vicinity of a finite-temperature critical end point. The thermal expansivity is shown to be more singular than the specific heat such that the Grüneisen ratio diverges as the critical point is approached, except for its immediate vicinity. More generally, we express the thermal expansivity in terms of a scaling function which we explicitly evaluate for the two-dimensional Ising universality class. Recent thermal expansivity measurements on the layered organic conductor  $\kappa$ -(BEDT-TTF)<sub>2</sub>X close to the Mott transition are well described by our theory.

[1] Lorenz Bartosch, Mariano de Souza, and Michael Lang, Physical Review Letters **104**, 245701 (2010).

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