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# HIGH ENERGY PHYSICS COLLOQUIA

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## PLAYING WITH MULTI-CRITICAL SYSTEMS: RG AND CFT APPROACHES IN THE $\epsilon$ EXPANSION IN $d > 2$

### Abstract

I will consider several classes of unitary and non unitary scalar field theories at criticality below the upper critical dimension and discuss perturbative methods to study their universal behavior, based on a functional renormalization group approach or, assuming conformal invariance, CFT constraints and Schwinger-Dyson equations. One finds agreement in the expressions of the scaling dimensions and leading OPE coefficients. Novel results for some universality classes are presented.

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