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Breaking the gauge symmetry in lattice gauge-invariant models.

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We consider the role that gauge symmetry breaking terms play on the continuum limit of gauge theories in three dimensions.

As a paradigmatic example we consider scalar electrodynamics in which N_f complex scalar fields interact with a $U(1)$ gauge field. We discuss under which conditions a mass term destabilizes the critical behavior (continuum limit) of the gauge-invariant theory and the nature of the asymptotic continuum limit observed once the gauge-breaking term is introduced.

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