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Confronting IR divergences in de Sitter QFT

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Scalar field theory on de Sitter space suffers from infrared (IR) divergences, highlighting the necessity of nonperturbative methods for IR resummation.
A well-known triad of statements encapsulates the IR issue:
(1) the massless Bunch–Davies vacuum breaks de Sitter invariance;
(2) the coincident limit of the two-point correlator exhibits secular growth; and
(3) stochastic inflation provides a nonperturbative resummation framework.
I will present an alternative perspective on each of these equivalent statements and discuss possible phenomenological implications.

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