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Dress for dS: Elevating Flat-Space Feynman Diagrams to Cosmological Correlators

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Inflation is a period of the very early universe proposed to explain, among other experimental observations, the fact that the Cosmic Microwave Background is incredibly isotropic. The characteristic energy scale of such a period may have been anywhere up to 10^{15} GeV, and therefore observables from this period can give us information about physics well beyond the reach of any conceivable particle collider. Such observables are related to correlation functions on the future infinity boundary of de Sitter space. In this poster I will present our work on scalar φ^4 and φ^3 interactions, where we develop a way of obtaining correlation functions on the boundary of de Sitter by "dressing" flat-space Feynman diagrams with additional propagators.

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