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Partial Wave Amplitude Basis and Selection Rules in Effective Field Theories

We derive the generalized partial wave expansion for $N \rightarrow M$ scattering amplitude in terms of spinor helicity variables. The basis amplitudes of the expansion with definite angular momentum j consist of the Poincar'e Clebsch-Gordan coefficients. Moreover, we obtain a series of selection rules that restrict the anomalous dimension matrix of effective operators and the way how effective operators contribute to some $2 \rightarrow N$ amplitudes at the loop level.

Scheduling Preferences

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