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Constraints on SMEFT operators using the missing energy + jet signature

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We analyze the signature missing energy + jet in the process $pp \rightarrow \nu\bar{\nu} + \text{jet}$ to derive constraints within the Standard Model Effective Field Theory (SMEFT).

The main focus is on semileptonic four fermion operators, which also have been constrained using conventional high- p_T Drell-Yan data, low energy observables and are connected to the B-Anomalies.

We find that missing energy + jet offers competitive and complimentary constraints.

The scales constrained for present data are $\Lambda \sim 3.5$ TeV, 3.0 TeV, 2.6 TeV and 1.6 TeV for uc , ds , db and sb respectively.

Summary

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