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Searching for Lorentz violation in high-energy colliders

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Lorentz violation has been a popular field in recent years in the search for new physics beyond the Standard Model. We present a general method to build all Lorentz-violating terms in gauge field theories, including ones involving operators of arbitrary mass dimension. Applying these results to two types of experiments in high-energy colliders, light-by-light scattering and deep-inelastic scattering, we extract first bounds on certain coefficients for Lorentz violation.

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