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LHC tau-pair production constraints on a and d

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We point out that relevant constraints on the anomalous magnetic (a) and electric (d) moment of the tau lepton can be derived from tau-pair production measurements performed at the LHC. Our conclusion is based on the observation that the leading relative deviations from the Standard Model prediction for $pp \to {}^{+-}$ due to a and d are enhanced at high energies. Less precise measurements at hadron colliders can therefore offer the same or better sensitivity to new physics with respect to high-precision low-energy measurements performed at lepton machines. We derive bounds on a and d using the full LHC Run II data set on tau-pair production and compare our findings with the current best limits on the tau anomalous moments.

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