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Measurement of the $t\bar{t}$ spin correlations, top quark polarization and related angular variables

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The ongoing CMS analysis on the measurement of the full spin density production matrix, which includes multi-differential measurements of variables sensitive to the top quark spin correlation, polarization and related angular observables, is presented. Events containing two leptons, two b-jets and additional jets, as well as missing transverse momentum produced in proton-proton collisions at a center-of-mass energy of 13 TeV are considered. The data corresponds to an integrated luminosity of 137/fb collected with the CMS detector at the LHC. Results are used to challenge Standard Model predictions and also to indirectly search for contributions of new physics.

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