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Search for light vector resonances decaying to a quark pair produced in association with a jet with the CMS detector at 13 TeV

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We perform a search for light generic dijet resonances produced in association with a high transverse momentum jet to get above trigger thresholds. It uses novel jet substructure observables to identify the Z' signal. The signal is then extracted on top of a falling QCD soft drop mass distribution estimated with a novel data-driven technique. Results are presented in a mass-coupling phase space and are the most sensitive to date, extending previous limits below 100 GeV.

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