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Search for scalar dark energy with the ATLAS detector

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We present the first constraints from a search for light scalar particles produced in association with $t\bar{t}$ and jet final states using 36 fb^{-1} of data collected at $\sqrt{s} = 13$ TeV with the ATLAS detector. The results are interpreted in the context of an Effective Field Theory model of scalar Dark Energy with conformal and disformal couplings. The results provide the most stringent constraints on the scale of disformal interactions between Dark Energy and Standard Model matter, improving the constraints obtained from cosmological and solar system tests by several orders of magnitude.

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