

Mono- W' : searching for dark matter in events with a hadronically decaying W' and missing transverse energy

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We analyze the potential dark matter implications of LHC events with missing transverse momentum and a W' resonance, decaying via $t\bar{b}$ to a hadronic final state. This final state remains unexamined by LHC experiments, but contains significant new discovery potential. We introduce a benchmark model for production of a W' boson in association with dark matter, propose reconstruction and selection strategies, and estimate the sensitivity of the current LHC dataset.

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