

## Search for top-coupled dark sector with emerging jets signatures

*Tuesday 21 January 2025 17:41 (7 minutes)*

Current search efforts for flavored dark sectors that couple to multiple SM quarks flavors has only included the coupling to isospin  $-\frac{1}{2}$  SM quarks using the emerging jet signature. A natural extension to such models would be to change the coupling to isospin  $+\frac{1}{2}$  SM quark. In particular, the coupling to SM top quarks allows for electroweak-like event selection and triggers to be used, opening the possibility to explore a wider region in the dark sector phase spaces. The accompanying dark sector shower also means that such model may not be fully excluded by existing  $t + X$  or  $t\bar{t} + X$  search efforts at the LHC. This talk aim to present the projection of the potential sensitivity of CMS to such models at Run 3, as well as exploring additional information available in Run 3 data that can further boost sensitivity to dark show signals.

### Are you happy to have the meeting recorded?

Yes

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**Session Classification:** Flash Talks