

# Detecting dark matter in degenerate mass spectra

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## Abstract content

The current LHC results lead to an increasing tension between the expectations for new particles at the weak scale and observations. However, new states remain viable even when they are charged or colored if they are very close in mass to the dark matter particle since such a scenario is inherently difficult to constrain at colliders. Moreover, a dark matter particle embedded in a nearly degenerate mass spectrum generates direct and indirect detection signatures that can deviate significantly from generic expectations. We compare the constraining power of antiprotons and gamma rays from dark matter annihilations with limits from direct detection and comment on the complementarity between these approaches.

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