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Dark matter annihilations and decays after the AMS-02 positron measurements

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We use the new positron data from the AMS-02 experiment to set limits on dark matter annihilations and decays in different channels. In this work it is assumed that the positron background consists of secondary positrons from spallations and an additional primary component of astrophysical origin. We show that the positron flux and the positron fraction give competitive limits on the dark matter properties. Concretely, we can exclude the thermal cross section for dark matter masses below 100 GeV in the electron channel and for masses below 60 GeV in the muon channel.

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