Gravitino dark matter in astroparticle data

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It is widely accepted that dark matter makes up about 80% of the matter content in the Universe. Its particle nature is however completely unknown yet, and revealing it will lead to a major breakthrough in physics. A promising approach for achieving this goal is to look for dark matter annihilation or decay signatures in astroparticle data. Stable dark mater particles, as the neutralino, are the most popular candidates, but unstable candidates also are theoretically well motivated when their lifetime is larger than the Universe age. The gravitino is the superpartner of the graviton, it is a long lived fleeby-interacting and spin 3/2 particle, it offers several particularities which makes it an attractive dark matter candidate. In this talk I motivate the gravitino as the main constituent of dark matter and present some of my investigations looking for its signatures with the Fermi-LAT and the AMS02 detectors.