

DarkSUSY 6: beyond supersymmetric dark matter

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I will present an overview of the widely used DarkSUSY package, with a focus on recent developments. DarkSUSY is a highly modular and flexible library of numerical routines to accurately compute a variety of astrophysical signals from dark matter, both in supersymmetric and other particle physics models. This includes direct detection rates in low-background counting experiments and indirect detection through antiprotons, antideuterons, gamma-rays and positrons from the Galactic halo, or high-energy neutrinos from the center of the Earth or the Sun. High-precision tools are furthermore provided for the computation of the relic density in the Universe today, including situations where the dark matter particles reside in a secluded dark sector or when chemical and kinetic decoupling are intertwined. The most recent major update, DarkSUSY 6.3, adds the possibility of computing the abundance of feebly interacting dark matter particles through the freeze-in mechanism.

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