First Pan-African Astro-Particle and Collider Physics Workshop



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Dark Matter Direct and Indirect Detection

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dark matter is an essential ingredient for understanding the recipe of the universe's creation. Since it cannot be made of any of the usual standard model particles, therefore the construction of particle-physics models for dark matter has become a huge industry, accelerated quite recently by many studies. The techniques needed to detect these different signatures of dark matter are composed of two major direct and indirect detection. this work intended to provide a brief review of dark matter for the newcomer to the subject beginning with a discussion of the astrophysical evidence for dark matter. Then the standard weakly interacting massive particle (WIMP) scenario and detection techniques are reviewed, as well as mentioning some alternatives (axions and sterile neutrinos).

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