

Axion constraints from astrophysical observations

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Axions and axion-like particles are promising particle candidates to explain cold dark matter. These particles could be detected through their feeble interaction with photons, which could lead to observable signatures in a variety of astrophysical observations. On the one hand, photons and axions produced in astrophysical sources could oscillate into each other in astrophysical magnetic fields leading to distinct features in the sources' multiwavelength spectra. Similarly, dark matter axions could convert into photons in strong magnetic fields of pulsars. On the other hand, dark matter axions with masses around the eV scale could decay into two photons at infrared wavelengths. In this talk, I will review recent advancements in these astrophysical axion searches.

Presenter: MEYER, Manuel (University of Southern Denmark)

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