

## Can the QCD axion feed a dark energy component?

*Thursday 2 May 2024 11:00 (20 minutes)*

A pseudo Nambu-Goldstone boson (PNGB) coupled to a confining gauge group via an anomalous term is characterised, during the confining phase transition, by a temperature dependent mass  $m(T) \propto T^{-n}$  with values of  $n$  not far from  $n \sim 3$ . We study the possibility that a hidden gauge group undergoing confinement at present time could provide a suitable time-varying mass to a dark PNGB. The occurrence of a diabatic level crossing between this PNGB and the QCD axion during  $m(T)$  evolution can convert a tiny fraction of dark matter axions into dark PNGB, which will then drive the accelerated expansion.

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**Session Classification:** Talks