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Cosmology of Atomic Dark Matter with CLASS

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In the atomic dark matter scenario, a fraction of the dark matter can exist as a dark plasma of dark sector particles charged under their own gauge force, coupled to a dark radiation bath until a relatively late recombination. This process can leave observable imprints on the CMB and matter power spectrum of the universe, distinct from Λ CDM. We present an upgraded version of the numerical Boltzmann solver code CLASS that can compute the cosmological history in an atomic dark matter scenario, as well as constraints on the atomic dark matter parameters from CMB and LSS observations.

Collaboration name

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