Contribution ID: **178** Type: **Parallel Talk**

Axion field inflation with non-minimal couplings, reheating and missalignment production

Tuesday, 1 December 2026 15:00 (20 minutes)

Axions are hipothetic particles proposed to solve the Strong CP problem in QCD. Yet, they are notable inflation and dark matter candidates. In this talk, we present a work were the radial axion component is the inflaton, whose perturbative decays produce radiation after inflation (reheating), and the angular part is dark matter produced through kinetic missalignment mechanism. The axion has a non-minimal coupling to gravity. We discuss constraints on the model parameters using inflationary observables, CMB potential signatures and dark matter abundance.

Academic position of the presenting author

Ph.D. Student

Primary authors: GÓMEZ, Nicolás (INAOE); CASTILLO, Andres (Universidad Antonio Nariño); Prof. BELTRÁN ALMEIDA, Juan Pablo (Universidad Nacional)

Presenter: GÓMEZ, Nicolás (INAOE)

Session Classification: Parallel Talks SD:804

Track Classification: Cosmology and Gravitation