Contribution ID: **102** Type: **Talk**

Axions in the early universe

Thursday, November 10, 2022 11:40 AM (30 minutes)

Scattering and decay processes of thermal bath particles in the early universe can dump relativistic axions in the primordial plasma. If produced with a significant abundance, their presence can leave observable signatures in cosmological observables probing both the early and the late universe. In this talk, I will focus on the QCD axion and I will present recent and significant improvements for the calculation of the axion production rate across the different energy scales during the expansion of the universe. I will apply these rates to predict the abundance of produced axions, and I will present the latest cosmological bounds on the axion mass and couplings.

Author: D'ERAMO, Francesco (University of Padua & INFN Padua)

Presenter: D'ERAMO, Francesco (University of Padua & INFN Padua)

Session Classification: Plenary

Track Classification: All