

## **Cosmological Axion and neutrino mass constraints from Planck 2015 temperature and polarization data**

In the primordial Universe the axion particles, which solve in an elegant way the CP problem in QCD, can be produced both thermally, contributing to the hot dark matter of the Universe, or not thermally, contributing to the cold dark matter.

I will show the recent constraints from cosmology for the thermal axion mass and the total neutrino mass, using the Planck 2015 temperature and polarization data.

**Author:** DI VALENTINO, Eleonora (Institut d'Astrophysique de Paris)

**Co-authors:** Prof. MELCHIORRI, Alessandro (Università 'La Sapienza' di Roma); GIUSARMA, Elena (Università 'La Sapienza' di Roma); Dr LATTANZI, Massimiliano (Università di Ferrara); MENA, Olga (IFIC); SILK, Joseph (IAP)

**Presenter:** DI VALENTINO, Eleonora (Institut d'Astrophysique de Paris)

**Track Classification:** Aug/18