

TPPC 2024 Kick-off meeting

Report of Contributions

Contribution ID: 1

Type: **not specified**

Flavor violating Higgs and Z decays at future lepton colliders

Friday, 2 February 2024 14:30 (35 minutes)

Presenter: TAMMARO, Michele (Istituto Nazionale di Fisica Nucleare)

Contribution ID: 2

Type: **not specified**

Topics at the intersection of Particle Physics and Cosmology

Friday, 2 February 2024 12:25 (35 minutes)

In this talk, three topics concerning aspects of cosmology and particle physics will be discussed: 1) primordial black hole production during the early universe; 2) higher-order computations of cosmological correlators in non-single-clock inflation, and 3) QCD axion dynamics and the role of gravitational anomalies.

Presenter: URBANO, Alfredo Leonardo (Istituto Nazionale di Fisica Nucleare)

Contribution ID: 3

Type: **not specified**

The QCD Axion: Some Like It Hot

Friday, 2 February 2024 11:45 (35 minutes)

The QCD axion is a compelling target for physics beyond the Standard Model which offers also a characteristic imprint in the Early Universe as a hot relic. In this talk we present a state-of-the-art bound on the QCD axion from Cosmology by confronting momentum-dependent Boltzmann equations against up-to-date measurements of the CMB –including ground-based telescopes –and abundances from BBN. We conclude presenting forecasts using dedicated likelihoods for future cosmological surveys and recent non-perturbative computations at the crossover from lattice QCD.

Presenter: VALLI, Mauro (Istituto Nazionale di Fisica Nucleare)

Contribution ID: 4

Type: **not specified**

Cosmological information in perturbative forward modelling

Friday, 2 February 2024 10:00 (35 minutes)

Presenter: Prof. SIMONOVIC, Marko (UNIFI)

Contribution ID: 5

Type: **not specified**

Low energy avenues in sub-MeV dark matter searches

Friday, 2 February 2024 10:40 (35 minutes)

I will present two complementary ideas to look for sub-MeV dark matter: superfluid helium-4 and anti-ferromagnetic materials. I will discuss advantages and possible difficulties, and argue that a prominent theoretical tool to tackle these problems should be Goldstone's theorem for spontaneously broken spacetime symmetries.

Presenter: ESPOSITO, Angelo (Istituto Nazionale di Fisica Nucleare)

Contribution ID: 6

Type: **not specified**

Modular invariance and the strong CP problem

Friday, 2 February 2024 16:30 (35 minutes)

Presenter: TITOV, Arsenii (University of Pisa and INFN)

Contribution ID: 7

Type: **not specified**

Constraining Flavor from the semi-leptonic decays of baryons

Friday, 2 February 2024 15:10 (35 minutes)

Presenter: JAFFREDO, Florentin (Istituto Nazionale di Fisica Nucleare)

Contribution ID: 8

Type: **not specified**

The X17 boson?

Friday, 2 February 2024 15:50 (35 minutes)

Presenter: BARDUCCI, Daniele (Istituto Nazionale di Fisica Nucleare)