Canadian Association of Physicists
Association canadienne des physiciens et physiciennes

Contribution ID: **4098** Type: **Invited Speaker / Conférencier(ère) invité(e)**

Origins of (neutrino-ish) Dark Matter in the Matter Power Spectrum

Wednesday 29 May 2024 10:30 (30 minutes)

Explorations of the origin of dark matter lead to rich experimental opportunities to discover the underlying new physics. I will discuss light sterile neutrino dark matter that is produced from the Standard Model plasma in the early universe. Leading production mechanisms include out-of-equilibrium neutrino oscillation supplemented by neutrino self-interactions (freeze in) and relativistic thermal freeze out followed by an entropy injection. I will show how the different histories of universe are encoded in the relic dark matter and impact their subsequent evolutions. I will present existing experimental constraints on these possibilities and highlight the complementary probes and new opportunities at upcoming cosmic and neutrino frontiers.

Keyword-1

sterile neutrino dark matter

Keyword-2

early universe

Keyword-3

structure formation

Author: Prof. ZHANG, Yue

Presenter: Prof. ZHANG, Yue

Session Classification: (PPD) W2-2 Dark Matter and Neutrinos | Matière noire et neutrinos (PPD)

Track Classification: Symposia Day (Wed May 29) / Journée de symposiums (Mercredi 29 mai): Symposia Day (PPD - PPD) - Dark Matter and Neutrinos / Matière noire et neutrinos