Canadian Association of Physicists
Association canadienne des physiciens et physiciennes

Contribution ID: **3285** Type: **Oral (Non-Student) / Orale (non-étudiant(e))**

Fermionic FIMP dark matter models providing low-scale leptogenesis.

Thursday, 9 June 2022 11:45 (15 minutes)

With the WIMP dark matter getting more and more constrained by the direct detection experiments, alternate mechanisms like FIMP have been explored in the recent literature. We shall consider simple models with fermionic FIMP as dark matter candidates, which naturally couple with heavy right-handed neutrinos. In addition to providing observed dark matter abundance, such scenarios are capable of addressing the low scale leptogenesis, and generating light neutrino mass with right-handed neutrinos as light as 10 TeV. This is achieved by the influence of the dark sector through quantum corrections in the decay of heavy-neutrinos. In the talk, we shall explore the details of the dark matter sector and the leptogenesis in this scenario, and analyse the viable parameter space.

Primary author: Prof. POULOSE, Poulose (Indian Institute of Technology Guwahati)

Co-authors: Prof. FRANK, Mariana (Concordia University); Mr CHAND, Suresh (Indian Institute of Technology Guwahati)

Presenter: Prof. POULOSE, Poulose (Indian Institute of Technology Guwahati)

Session Classification: R2-2 Frontiers in Theoretical Physics II (DTP) | Frontières en physique théorique II (DPT)

Track Classification: Technical Sessions / Sessions techniques: Theoretical Physics / Physique théorique (DTP-DPT)