Session Program

7–11 Jul 2025

Dark Side of the Universe 2025

Parallel 2

Monday 7 July

13:30

Parallel 2: Inflation / reheating / CMB

Session

13:30–13:50 **Interface of Particle Physics and Cosmology: Higgs Inflation Revisited**

Speaker
Tammi Chowdhury

13:50–14:10
Gravitational Neutrino Reheating : A minimal framework for reheating and leptogenesis

Speaker
RAJESH MONDAL

14:10–14:30 **Reliable effective theory of warm inflation in the light of CMB data**

Speaker
Prof. Vahid Kamali

14:30–14:50 **False and genuine decoherence of primordial perturbations**

Speaker
Dr Junsei Tokuda

14:50–15:10
Entanglement between pair-created universes bridged by a Euclidean wormhole

Speaker
Prof. Dong-han Yeom

15:10

15:40

Parallel 2: Gravitational and inflationary DM production

Session

15:40–16:00 **Production of Dark Matter during Reheating after Inflation**

Speaker
Prof. Keith A. Olive

16:00–16:20
Cosmological gravitational particle production: Starobinsky vs Bogolyubov, uncertainties, and issues

Speaker
Duarte Miguel da Silva Feiteira

16:20–16:40 **Gravitational production in the early universe**

Speaker
Yann MAMBRINI

16:40–17:00 **Imprints of Inflaton Fragmentation on Dark Matter Production**

Speaker
Francisco Barreto Basave

17:20

17:00–17:20 **Gravitational Waves from Gravitational Particle Production**

Speaker
Marcos Alejandro García García

Tuesday 8 July

13:30

Parallel 2: Black holes / remnants

Session

13:30–13:50 **Primordial black holes in the era of Roman**

Speaker
William DeRocco

13:50–14:10 **PBH formation during reheating**

Speaker
Dr Juan Carlos Hidalgo

14:10–14:30
Building black holes and dark compact objects before Big Bang Nucleosynthesis

Speaker
Melissa Diamond

14:30–14:50 **Static Planck stars as a dark matter candidate**

Speaker
Edward Wilson-Ewing

14:50–15:10 **Hawking radiation from primordial black holes**

Speaker
Christopher Hirata

15:10

15:40

Parallel 2: DM models II

Session

15:40–16:00
Comprehensive Phenomenology of the Dirac Scotogenic Model: Novel Low-Mass Dark Matter

Speaker
Sushant Yadav 2020504

16:00–16:20 **Seeking Dark matter candidates in the Alternative Left Right model**

Speaker
Urjit Yajnik

16:20–16:40 **General Implications of the Froggatt-Nielsen Mechanism**

Speaker
Micah Mellors

16:40–17:00
Cosmological Constraints on Atomic Dark Matter from Large Scale Structure in the Nonlinear Regime

Speaker
Linda Yuan

17:20

Wednesday 9 July

11:00

Parallel 2: DM mechanisms

Session

11:00–11:20 **Boosted dark matter from semi-annihilations in the galactic center**

Speaker
Dr Takashi Toma

11:20–11:40 **Connecting the baryons to the dark matter of the Universe**

Speaker
Alejandro Ibarra

11:40–12:00 **Thermal effects on dark matter particle production**

Speaker
Hugo Schérer

12:00–12:20
Boosted dark matter driven by cosmic rays and diffuse supernova neutrinos

Speaker
Tushar Gupta

12:20–12:40 **Ultra-relativistic freeze-out: a bridge from WIMPs to FIMPs**

Speaker
Stephen Henrich

12:40

Thursday 10 July

13:30

Parallel 2: Sub-GeV and ultralight DM I

Session

13:30–13:50 **Dark Vector Splitting Functions in Proton Bremsstrahlung**

Speaker
Saeid Foroughi-Abari

13:50–14:10 **A Dark Photon window into GeV DM**

Speaker
Patrick Foldenauer

14:10–14:30
Ultralight Dark Matter Search with Space-Time Separated Atomic Clocks and Cavities

Speaker
Benjamin Roberts

14:30–14:50 **Simulating Free Streaming in Warm Wave Dark Matter**

Speaker
Siyang Ling

14:50–15:10
Bandwidths Broadening in Ultra-light dark Matter Search with Alkali-noble-gas Apin Systems

Speaker
Yuxuan He

15:10

15:40

Parallel 2: Heavy DM

Session

15:40–16:00
Decaying heavy DM with RHN portals and dark gauge symmetry: PAMELA/AMS02, IceCUBE and KM3

Speaker
Prof. Pyungwon Ko

16:00–16:20 **Searching for heavy millicharged particles from the atmosphere**

Speaker
Han Wu

16:20–16:40
New Mechanism for heavy dark matter production from cosmic phase transition and beyond

Speaker
Fa Peng Huang

16:40–17:00 **Heavy dark matter in the first stars**

17:20

Speaker
Walter Tangarife

Friday 11 July

11:00

Parallel 2: Astrophysical / cosmological DM probes II

Session

11:00–11:20 **ASTRA: Mapping the Cosmic Web's Dark Side with DESI DR2**

Speaker
Jaime Forero-Romero

11:20–11:40

Growth Through Stasis: The Evolution of Matter Perturbations During a Stasis Epoch

Speaker
Prof. Brooks Thomas

11:40–12:00 **The GAIA impact on Dark Matter Searches**

Speaker
Prof. Subhabrata Majumdar

12:40