



# Trends in Astroparticle and Particle Physics

Wednesday, September 25, 2024

**Talks - Ramanujan Auditorium (9:30 AM - 11:00 AM)**

-Conveners: Chair: V Ravindran

time	[id] title	presenter
9:30 AM	[7] Rajaji- An Inward bound Journey	MURTHY, Mundur V N
10:15 AM	[8] Are Fractals Behind Flavor Mixing of the SM?	SINGH, Aadarsh
10:30 AM	[9] The role of large collider detectors in distinguishing astrophysical neutrinos from anti-neutrinos and its implications	MUKHOPADHYAY, Satyanarayan

**Talks - Ramanujan Auditorium (11:30 AM - 1:00 PM)**

-Conveners: Chair: Rahul Sinha

time	[id] title	presenter
11:30 AM	[10] Feynman Integrals and Hypergeometric Functions: Recent Results and Mathematical Implementations	ANANTHANARAYAN, Balasubramanian
12:00 PM	[11] Jet Substructure Methods for Polarization Measurement of Boosted Hadronic W Bosons	DE, Songshaptak

**Talks - Ramanujan Auditorium (2:30 PM - 4:00 PM)**

-Conveners: Chair: Mundur V N Murthy

time	[id] title	presenter
2:30 PM	[13] The strange case twin neutron stars and its merger	MALLICK, Ritam
3:00 PM	[14] Neutrino Flavor and Anderson Localisation	VEMPATI [ONLINE], Sudhir
3:30 PM	[15] Holographic Dark Energy: Possibility of negative dark energy at $\Lambda$ CDM	T. MANOHARAN, Manosh
3:45 PM	[16] Prospects of Dynamic Radius Jet Clustering Algorithm at the LHC	SAMUI, Tousik

# Thursday, September 26, 2024

## Talks - Ramanujan Auditorium (9:30 AM - 11:00 AM)

-Conveners: Chair: T R Govindarajan

time	[id] title	presenter
9:30 AM	[17] Belle II highlights: flavour physics and more	LIBBY, Jim
10:15 AM	[18] Hunting Primordial Black Hole Dark Matter in Lyman-alpha forest	SINGH, Abhijeet
10:30 AM	[19] Understanding the role of chiral symmetry in the QCD phase diagram	SHARMA, Sayantan

## Talks - Ramanujan Auditorium (11:30 AM - 1:00 PM)

-Conveners: Chair: Nita Sinha

time	[id] title	presenter
11:30 AM	[20] The Road to a Deuterated Scintillator-Based Detector	DASGUPTA, Basudeb
12:00 PM	[21] Exotic Tccus tetraquark from numerical simulations of QCD	SHRIMAL, Tanishk
12:15 PM	[22] LHC: always exciting	MAZUMDAR, Kajari

## Talks - Ramanujan Auditorium (2:30 PM - 3:30 PM)

-Conveners: Chair: Kajari Mazumdar

time	[id] title	presenter
2:30 PM	[23] Cosmological selection of a small weak scale from a large vacuum energy: a minimal approach	GUPTA, Rick Sandeepan
3:00 PM	[24] Primordial power spectrum in light of JWST observations of high redshift galaxies	LAHA, Ranjan

## Talks - Ramanujan Auditorium (4:00 PM - 5:15 PM)

-Conveners: Chair: Kajari Mazumdar

time	[id] title	presenter
4:00 PM	[53] New Physics with $N_{\rm eff}$ in the CMB	GHOSH, Purusottam
4:15 PM	[54] Is the CP violation observed in D decays a signal of new Physics	SINHA, Rahul
4:45 PM	[55] Patterns in Scattering Amplitudes	TRIPATHI, Anurag

# Friday, September 27, 2024

## Talks - Ramanujan Auditorium (9:30 AM - 11:00 AM)

-Conveners: Chair: Srubabati Goswami

time	[id] title	presenter
9:30 AM	[27] Multimessenger Astroparticle Physics using photons and neutrinos	MAJUMDAR, Pratik
10:15 AM	[28] Dark matter cooling during early-matter domination boosts sub-earth halo formation	BANERJEE, Avik
10:30 AM	[29] Long-lived particles: unconventional signatures in collider experiments	BHATTACHERJEE, Biplob

## Talks - Ramanujan Auditorium (11:30 AM - 1:00 PM)

-Conveners: Chair: D. Indumathi

time	[id] title	presenter
11:30 AM	[30] The curious case of the sterile neutrino	GOSWAMI, Srubabati
12:00 PM	[31] Surface magnetic field of neutron stars	RAY, Subharthi
12:30 PM	[32] Positivity Bounds on HEFT Operators	CHATTOPADHYAY, Susobhan
12:45 PM	[33] Exploring the Impact of Extra Dimensions on the Equation of State and the Structure of Neutron Stars	DEB, DEBABRATA

## Talks - Ramanujan Auditorium (3:00 PM - 3:45 PM)

-Conveners: Chair: Manjari Bagchi

time	[id] title	presenter
3:00 PM	[50] Anisotropy and the missing rest frame of the Universe falsify standard dark cosmology	RAMEEZ, Mohamed