

Session Program

12-16 Dec 2022

XXV DAE-BRNS HIGH ENERGY PHYSICS SYMPOSIUM 2022

DAE HEP 2022
HOSTED BY IISER MOHALI
DECEMBER 12TH TO 16TH

TOPICS

- ASTROPARTICLE PHYSICS AND COSMOLOGY
- BEYOND THE STANDARD MODEL
- FORMAL THEORY
- FUTURE EXPERIMENTS AND DETECTOR DEVELOPMENT
- HEAVY IONS AND QCD
- HIGGS PHYSICS
- NEUTRINO PHYSICS
- QUARK AND LEPTON FLAVOUR PHYSICS
- SOCIETAL APPLICATIONS
- TOP QUARK AND EW PHYSICS

Logos: IISER Mohali, TIFR, AMITY, and other participating institutions.

XXV DAE-BRNS High Energy Physics Symposium 2022

Poster - 1

IISER Mohali, Lecture Hall Complex, IISER Mohali
IISER Mohali, Sector 81, Knowledge city, SAS Nagar, Punjab, India

Monday 12 December

14:00

Poster - 1: D1

Poster Session |

Location: IISER Mohali, Foyer, Lecture Hall Complex, IISER Mohali, Sector 81, Knowledge city, SAS Nagar, Punjab, India |

Conveners: Dr Vishal Bhardwaj, Dr Ambresh Shivaji, Dr Satyajit Jena

Quark matter in the core of neutron stars and its consequences on non-radial oscillations

Speaker

Deepak Kumar

WIMPy Leptogenesis in Non-Standard Cosmologies

Speaker

Devabrat Mahanta

Faint light of old neutron stars from dark matter capture and detectability at the James Webb Space Telescope

Speaker

Brijesh Kanodia

Radiative corrections on golden ratio neutrino mixings with the effect on the variation of SUSY breaking scale

Speaker

Mr Yumnam Monitar Singh

Local gauge invariance and dynamics of a non-equilibrium system close to critical region of phase transition

Speaker

waseem bashir ahmad

Casimir Effect in Lorentz invariant Non-commutative space-time

Speaker

Suman Kumar Panja

Higgs boson production via Vector Boson Fusion process decaying via bottom quark-antiquark pair in CMS experment with full Run 2 pp collision data at $\sqrt{s} = 13$ TeV

Speaker

Soumya Mukherjee

Parallelization of Garfield++ and neBEM to simulate space charge effects in RPCs

Speaker

Tanay Dey

Study of Relative Particle Yields in a Hot and Dense Gas of Interacting Hadrons in a Thermal Model Approach

Speaker

Mr Rasheed Ahmad

HGCAL module assembly R&D and prototyping activities at TIFR**Speaker**

Kameswara Rao Kodali

Superconformal blocks for stress tensor and chiral operator for 4D $\mathcal{N}=2$ SCFT**Speaker**

Subhadeep Rakshit

Performance of the local reconstruction algorithms for the CMS hadron calorimeter in Run-2 data**Speaker**

Mintu Kumar

 ^7Li Photodisintegration with Circularly Polarized Photons**Speaker**

Ms ASWATHI V

Probing the onset of hydrodynamic breakdown in heavy-ion collisions**Speaker**

Nikhil Hatwar

Searching the numerical bands of conductivity of QGP and decay profile of magnetic field**Speaker**

Ms Thandar Zaw Win

Searching For Fundamental Novel Physics in CDF-II W Boson Mass Anomaly**Speaker**

Mr Hemant Kumar Prajapati

Ideal gas limit and equipartition theorem for AdS black holes**Speaker**

Aritra Ghosh

Effect of noncommutativity on various information theoretic quantities.**Speaker**

ANIRBAN ROY CHOWDHURY

Mechanical properties and gravitational form factors of a dressed quark in light-front Hamiltonian QCD**Speaker**

Sudeep Saha

Fingerprints of the quantum space-time in time-dependent quantum mechanics: An emergent geometric phase**Speaker**

Anwesha Chakraborty

Page Curve of an Eternal Black Hole from Doubly Holographic Setup in M Theory**Speaker**

Gopal Yadav

Chaplygin gas in the cosmological settings of $f(T)$ gravity

Speaker

Sanjeeda Sultana

Search for a vector-like quark T decaying to bW, tZ, tH in the single lepton final state at the HL-LHC**Speaker**

Mr Kuldeep Kumar Pal

Dynamical analysis of the Dirac Born Infeld type of Tachyon field minimally coupled with barotropic fluid using Eos parameterization of a field.**Speaker**

Mr Saddam Hussain

Simplest linear seesaw mechanism**Speaker**

Praveen Bharadwaj

Study of the p_T spectrum of the Z boson at LHC using leading-order event generators**Speaker**

Mr Dharmender Dharmender

Background Modelling for the TEXONO Coherent Neutrino Scattering reactor experiment**Speaker**

Mr S. Parhi

Prospects of triggering $H/Z \rightarrow \phi \gamma$ and $H/Z \rightarrow \rho \gamma$ at $\sqrt{s}=14\text{TeV}$ at the High Luminosity (HL-LHC)**Speaker**

Sweta Baradia

Relativistic dissipative hydrodynamics with BGK collision kernel**Speaker**

Pracheta singha

Technological enhancement and neutrino astronomy with the next generation neutrino experiment**Speaker**

jyotsna Singh

Bottomonium: Properties and Decays in Non-Relativistic Framework**Speaker**

Mr Christas Mony A

Axial vector emitting two body nonleptonic weak decays of bottom meson**Speaker**

Mr Avijit Hazra

Experimental study of properties of an Assembled single Straw Tube and other simulation studies with GARFIELD++**Speaker**

Prachi Sharma

Generalized BMS algebra in higher even dimensions**Speaker**

Chandramouli Chowdhury

Modelling very high energy GRB afterglow emission**Speaker**

Ms Tanima Mondal

High energy muon production in Cosmic Ray air showers**Speaker**

Mohan Karthik

A comparative study of production of W^\pm , Z-boson using muonic channel in p-p collisions at LHC energies.**Speaker**

Dr Tinku Sinha Sarkar

Forward-Backward Net Charge Correlations in pp Collisions 7 and 13 TeV using PYTHIA-8**Speaker**

Dr Anuj Chandra

Sterile neutrinos: propagation in matter and mass ordering**Speaker**

Mr Dibya S. Chattopadhyay

Weyl Tensor, Causal structure and asymptotic aspects of Noncommutative Minkowski Spacetime**Speaker**

Ms Manali Roy

Linear seesaw in modular S_3 symmetry with leptogenesis**Speaker**

mitesh behera

Cosmic inflation and $(g-2)_\mu$ in minimal gauged $L_\mu-L_\tau$ model**Speaker**

Mr Arnab Paul

Learning features of multidimensional data using latent space representation**Speaker**

Arnab Laha

Pion production in DUNE Near Detector with Argon target**Speaker**

Mr Lalnuntluanga R

Development of Sensor enabled sustainable operation of the Gas Electron Multiplier for optimal performance**Speaker**

Chandra Prakash

Effect of anomalous HHH and $ZZHH$ couplings on the decay width of $H \rightarrow ZZ \rightarrow 4l$

Speaker
Biswajit Das

Optimization of the SAND Near Detector Configuration for the DUNE Experiment

Speaker
Shailesh Pincha

Next-to-eikonal Webs in multiparton scattering amplitude

Speaker
Abhinava Danish

Muon Removed Electron-added Study for Neutrino-Electron Elastic Scattering in the NOvA Near Detector

Speaker
Barnali Brahma

Study of Di-Higgs production process at the LHC in $\gamma\gamma$ final state.

Speaker
Atul Jaiswal

Exploring Chiral Magnetic Wave in Relativistic Heavy Ion Collisions

Speaker
Ms Ankita S. Nain

Quest for New Physics with CKM elements

Speaker
Dayanand Mishra

Constraints on the 4th generation CKM matrix

Speaker
Ms Gurjit Kaur

The Curvature Aspects of Canonical Noncommutative versions of Flat Commutative Spaces

Speaker
Dr MUTHUKUMAR B.

Two particle correlations of neutral and charged kaons in heavy-ion collisions

Speaker
Anjaly Menon

Type-II see-saw: searching the LHC elusive low-mass triplet-like Higgses at e^+e^- colliders

Speaker
Saiyad Ashanujjaman

{ Explaining TM2 mixing pattern in a scoto-seesaw framework

Speaker
Mr Joy Ganguly

Snowball Chamber - A New Detector Technology Exploring Dark Matter

Speaker

Shruti De

Thermalization in 3.0 GeV fixed target collisions from the RHIC Beam Energy Scan**Speaker**

FNU Rutik

Particle on a torus knot: A toy model for Hodge theory**Speaker**

ANJALI S

Signatures of low scale leptogenesis in primordial blue-tilted GW spectrum**Speaker**

Satyabrata Datta

Singlet-Doublet Fermionic Dark Matter in Gauge Theory of Baryons**Speaker**

Taramati Guruwani

Event re-weighting in simulation using XGBoost in B(s) to phi(1020) mu mu analysis for RunII at 13TeV**Speaker**

Rishabh Raturi

Kinematics and Particle Identification at Very High Energy Colliders**Speaker**

Radhika Vinze

Search for the decay $B_s^0 \rightarrow J/\psi \pi^0$ at $\Upsilon(5S)$ resonance**Speaker**

Devender Kumar

Analysis of scalar mediated proton decays in non-SUSY SO(10) GUTs**Speaker**

Saurabh Shukla

Automated evaluation of Feynman integrals using GKZ hypergeometric systems**Speaker**

Mr Sudeepan Datta

Supertranslation transition between quasilocal black holes**Speaker**

Pritam Nanda

Search for the cLFV in $Y(2S) \rightarrow l (l=e,\mu)$ tau decays at Belle.**Speaker**

Ms Rashmi Dhamija

Resonance production in small collision systems with respect to transverse sphericity at ALICE**Speaker**

Nasir Mehdi Malik

Measurement of time-integrated raw asymmetry in $D^0 \rightarrow K^+ K^-$ **Speaker**

Ms Sanjeeda Bharati Das

Gravitational Waves from Left-Right Symmetry: A Tale of Two Kinds of Phase Transitions**Speaker**

Zafri Ahmed Borboruah

Entropy and Multifractal Characteristics of Multiparticle production in pp collisions at ISR, SPS and LHC energies**Speakers**

Nida Malik, Ms Sweta Rajpoot

An Augmented QCD Phase Portrait: Mapping the Quark-Hadron Deconfinement Transition for Hot, Dense, Rotating Matter under Magnetic Field**Speaker**

Gaurav Mukherjee

NNLO QED corrections in McMule**Speaker**

Pulak Banerjee

Radiative Neutrino Mass with GeV Scale Majorana Dark Matter in Scotogenic Model**Speaker**

Avnish .

Characterising the jet sub-structure modifications in a QGP medium using multi-stage energy-loss mechanisms**Speaker**

Ms Vaishnavi Desai

In the quest for Quark-Gluon Plasma in $p+p$ collisions at the LHC Energies**Speaker**

Captain Rituraj Singh

R&D of Time Projection Chamber for particle tracking**Speaker**

Mr Pralay Kumar Das

Refurbishment of CLS system for mini- ICAL detector**Speaker**

Mr R. R. Shinde

Strange hadron production in d+Au collisions at $\sqrt{s_{NN}} = 200$ GeV using the STAR detector**Speaker**

Ishu Aggarwal

Importance and prospects of the electroweak mixing angle measurements in high luminosity LHC

Speaker

Dr Maitreyee Mukherjee

Fusion of ^{12}C with $^{144,154}\text{Sm}$ at sub-barrier energies**Speaker**

Mr Vijay Ghanghas

How did the Proton Get Its Spin?**Speaker**

BHEEMSEHAN GURJAR

Obtaining bouncing solutions through holographic principle and bounce realization within $f(T)$ gravity.**Speaker**

Moli Ghosh

Using Gravitational Waves to probe Froggatt-Nielsen models beyond the reach of colliders**Speaker**

Dhruv Ringe

Flavor Asymmetry of Light Sea Quarks in Proton.**Speakers**

Dr Harleen Dahiya, Pranjal Srivastava, Ms Shweta Choudhary

Search for Dark Matter**Speaker**

Kaushik Mittal

Re-visiting the J/Ψ suppression for quark-gluon plasma formation in small systems**Speaker**

Partha Bagchi

Constraints on New Physics in $b \rightarrow u \ell \bar{\nu}_\ell$ Transitions**Speaker**

Karthik Jain

Charmonia production at HERA in CGC model using a holographic AdS/QCD light front wavefunction**Speaker**

Dr Neetika Sharma

A Combination of Perturbative and Non-perturbative Kahler Moduli Stabilization Can Connect String Theory to Inflation**Speaker**

Mr ARUNODAY SARKAR

Collectivity in small systems: interplay of flow and non-flow effects.**Speaker**

Dr Subikash Choudhury

Infrared Divergences in $e^+e^- \rightarrow 2/3\text{jets}$ in the Light Front Coherent State Formalism

Speaker
Deepesh Bhamre

Epsilon-Expansion of Multivariable Hypergeometric Functions Appearing in Feynman Integral Calculus

Speaker
Mr Souvik Bera

Measurement of the Absolute Branching Fractions of $B \rightarrow D^{(*)}0\rho$ Reconstruction with the Missing Mass Method.

Speaker
Swarna Prabha Maharana

Constraining the self-coupling (sixth order) of the inflaton field in the AdS swampland conjecture based on CMB observations

Speaker
Somnath Das

Lienard-Wiechert potential of a heavy quark moving in the quark gluon plasma

Speaker
Jobin Sebastian

Emission Properties of Non-rotating Neutron Stars with magnetic field using modified TOV equations

Speaker
SHUBHAM YADAV

Estimating the Age of Universe via Scalar Field

Speaker
Vikash Kumar Ojha

Cosmology of Chaplygin gas in viscous framework and Information theoretic model validation

Speaker
Sanghati Saha

KM3NeT/ARCA search for the point sources of neutrinos.

Speaker
Jhilik Majumdar

Search for high mass resonances decaying into $W+W^-$ in the dileptonic final state with 138 fb^{-1} of proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$

Speaker
Sadhana Verma

Phenomenology of Scalar Leptoquarks: neutrino mass, $g-2$, and B -anomalies

Speaker
Snehashis Parashar

Exploring new-physics effects of scalar NSI at DUNE, T2HK and T2HKK

Speaker
Abinash Medhi

Design of Readout Electronics for the Cosmic Muon Veto Detector

15:00

Speakers

Yuvaraj Elangovan, Mandar Saraf