

Saha Theory Workshop: Cosmology at the Interface

Wednesday 28 January 2015 - Friday 30 January 2015

Programme

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Wednesday 28 January 2015

Registration (09:00-09:20)

Openning - Lecture Hall 1 (09:20-09:30)

Morning Session I - Lecture Hall-1 (09:30-11:00)

- Conveners: Prof. Pal, Palash Baran

time	title	presenter
09:30	Probing Cosmology with GeV-TeV Gamma rays	Prof. MAJUMDAR, Pratik (SINP, Kolkata)
10:15	Confronting Galactic and Extragalactic gamma-ray observed by Fermi-LAT with Annihilating Dark Matter in Inert Higgs Doublet Model	Prof. MAJUMDAR, Debasish (SINP)

Morning Session II - Lecture Hall-1 (11:30-13:00)

- Conveners: Prof. BHATTACHARJEE, Pijushpani

time	title	presenter
11:30	Neutrinos and Cosmology	Prof. PAKVASA, Sandip (University of Hawaii)
12:15	Black hole superradiance, alternative theories of gravity and floating orbits	Prof. CHAKRABARTI, Sayan (IIT, Gauhati)

Afternoon Session I - Lecture Hall-1 (14:00-15:30)

- Conveners: Prof. Mohanty, Subhendra

time	title	presenter
14:00	The current status of dark energy	Prof. SEN, Anjan Ananda (Center For Theoretical Physics, JMI)
14:45	Large scale anisotropy in the Universe	Dr. JAIN, Pankaj (IIT, Kanpur)

Afternoon Session II - Lecture Hall-1 (16:00-16:45)

- Conveners: Prof. Majumdar, Pratik

time	title	presenter
16:00	Discussion/Q&A: Moderator - Sen, Anjan Ananda	

Thursday 29 January 2015

Morning Session-I - Lecture Hall-1 (09:30-11:00)

- Conveners: Prof. Jain, Pankaj

time	title	presenter
09:30	21-cm Cosmology	Prof. BHARADWAJ, Somnath (IIT Kharagpur)
10:15	Reionization	Dr. CHOUDHURY, Tirthankar Roy (National Centre for Radio Astrophysics, TIFR)

Tea/Coffee - Auditorium Complex (11:00-11:30)

Morning Session-II - (11:30-13:00)

- Conveners: Prof. Ghosh, Amit

time	title	presenter
11:30	Generation of magnetic field before recombination	Prof. SHANKARANARAYANAN, S. (IISER, Thiruvananthapuram)
12:15	Gravitational-wave astronomy	Dr. PARAMESWARAN, AJITH (International Centre for Theoretical Sciences, TIFR, Bangalore)

Lunch - Canteen (13:00-14:00)

Astro Physics-I - 3307 (14:00-15:15)

- Conveners: Prof. CHOUDHURY, Tirthankar Roy

time	title	presenter
14:00	A Direct Measurement of the Mean Occupation Function of Quasars: Breaking Degeneracies between Halo Occupation Distribution Models	Dr. CHATTERJEE, Suchetana (Assistant Professor)
14:15	The effect of non-Gaussianity on error predictions for the Epoch of Reionization (EoR) 21-cm power spectrum	Mr. MONDAL, Rajesh (Indian Institute of Technology Kharagpur)
14:30	21 cm signal from cosmic dawn	Mr. RAGHUNATH GHARA, Raghunath (NCRA-TIFR)
14:45	Generation of large scale magnetic fields in the early universe driven by cosmological neutrinos	DVORNIKOV, Maxim (USP)
15:00	Free slot	

Dark Energy-I - Lecture Hall-2 (14:00-15:15)

- Conveners: Prof. Sen, Anjan Ananda

time	title	presenter
14:00	Kaluza–Klein dark energy model in the form of wet dark fluid in $f(R, T)$ gravity	SAHOO, Pradyumn (Birla Institute of Technology & Science-Pilani, Hyderabad Campus)
14:15	A non-canonical scalar model of Dark Energy	Dr. DAS, Sudipta (Visva-Bharati)
14:30	Curvature Singularities in Modified Theories of Gravity	Ms. PATEL, Avani (IISER Bhopal)
14:45	“ Quintessence and D3-brane/anti-brane universe”	Mr. PANDEY, Kumar Priyabrat (University of Delhi, Delhi-110007)
15:00	Evolution of Cosmological parameters exhibited by the Starobinsky $f(r)$ gravity model in Einstein frame	Mrs. DEKA, Kabita (Ph.D. student)

Inflation-I - Lecture Hall-1 (14:00-15:15)

- **Conveners: Prof. CHIANGANGBAM, Pravabati**

time	title	presenter
14:00	Inflation and Electroweak vacuum stability after LHC, PLANCK and BICEP2	Dr. DAS, Suratna (INSPIRE Faculty)
14:15	Constraining $N=1$ supergravity inflationary framework with non-minimal Kähler operators	CHOUDHURY, Sayantan (urn:Facebook)
14:30	N-flation in Supergravity	Mr. KUMAR, Das (SINP)
14:45	A note on Chromo Natural Inflation	Dr. DESHAMUKHYA, Atri (Assam University, Silchar, india)
15:00	Cosmological bounces in spatially flat FRW spacetimes in metric $f(R)$ gravity	Mr. CHAKRABORTY, Saikat (IIT Kanpur)

Dark Energy-II - Lecture Hall-2 (15:45-17:15)

- **Conveners: Prof. Majumdar, Debashis**

time	title	presenter
15:45	Current Cosmic Acceleration with Slotheon	Dr. ALI, Amna (SINP, Kolkata)
16:00	Gravitational Lensing Bound on The Transition Redshift	Ms. RANI, Nisha (Delhi University)
16:15	Geometry of the universe described by wet dark fluid in $f(R, T)$ theory of gravity	Dr. SAMANTA, Gauranga Charan (Birla Institute of Technology and Science, Pilani, K k Birla, Goa Campus)
16:30	Pressure anisotropy and dark energy models in scale invariant theory of gravitation	Dr. MISHRA, Bivudutta (BITS-Pilani, Hyderabad Campus)
16:45	High- z Supernova Type Ia Data: non-Gaussianity and Direction Dependence	Mr. MR., Meghendra Singh (UPTU Lucknow)
17:00	Effect of phantom dark energy on Gravitational Lensing	Dr. SARKAR, Kabita (Salesian College, Siliguri)

Formal/Dark Energy - 3307 (15:45-17:15)**- Conveners: Prof. Hossain, Golam**

time	title	presenter
15:45	Horizon dynamics induced by charged and rotating object	Dr. BHATTACHARJEE, Srijit (IIT Gandhinagar)
16:00	A simple solution to the fine tuning problem of the cosmological constant	Mr. KASHYAP, GOPAL (IIT KANPUR)
16:15	A Singularity Free Cosmological Model in General Relativity	Dr. PACIF, Shibesh Kumar Jas Pacif (Manipal University Jaipur)
16:30	STRNGE STARS IN KRORI BARUA SPACE-TIME	Ms. KARAR, INDRANI (SAROJ MOHAN INSTITUTE OF TECHNOLOGY, GUPTIPARA, HOOGHLY)
16:45	Influence of cosmological expansion on the local accretion phenomena in galaxies	Dr. BHADRA, Arunava (University of North Bengal)
17:00	Free Slot	

Inflation-II - Lecture Hall-1 (15:45-17:15)**- Conveners: Prof. Pal, Supratik**

time	title	presenter
15:45	Modified Natural Inflation in Light of BICEP2	Mr. SAHA, Pankaj (Department of Physics, Indian Institute of Technology, Guwahati)
16:00	Signature of Gibbons-Hawking temperature in the BICEP2 measurement of gravitational waves	Dr. NAUTIYAL, Akhilesh (Indian Institute of Science Education and Research Bhopal)
16:15	Variable gravity: A suitable framework for quintessential inflation	Mr. HOSSAIN, Md. Wali (Centre for Theoretical Physics, Jamia Millia Islamia, New Delhi-110025)
16:30	Imprint of Isotropy Violated Gravitational Wave Background in CMB	Mr. MUKHERJEE, Suvodip (IUCAA)
16:45	Free Slot	

Conference Dinner (18:45-20:00)

Friday 30 January 2015

Morning Session-I - Lecture Hall-1 (09:30-11:00)

- Conveners: Prof. De, Asit

time	title	presenter
09:30	Recent Cosmological results from Planck satellite mission	Dr. BASAK, Soumen (Astrophysics Department, SISSA)
10:15	Supergravity Inflation	Prof. MOHANTY, Subhendra (PRL, Ahmedabad)

Tea/Coffee - Auditorium Complex (11:00-11:30)

Morning Session-II - Lecture Hall-1 (11:30-13:00)

- Conveners: Prof. Bharadwaj, Somnath

time	title	presenter
11:30	Inflation after Planck	Dr. PAL, Supratik (ISI Kolkata)
12:15	Planck Scale Physics and Unruh Effect	Dr. HOSSAIN, Golam (IISER Kolkata)

Lunch: Lunch - Canteen (13:00-14:00)

Afternoon Session-I - Lecture Hall-1 (14:00-15:15)

- Conveners: Prof. BHATTACHARYYA, Gautam

time	title	presenter
14:00	CMB polarization	Dr. CHIANGANGBAM, Pravabati (IIA, Bangalore)
14:45	Discussion/Q&A: Moderator - Mohanty, Subhendu	

Closing - Lecture Hall 1 (15:15-15:30)

Good Bye Tea/Coffee (15:30-16:00)