

this Session was Dr. Subhansu Ghosh from the 'Bose Institute, Kolkata'. He spoke on "Black Hole Accretion in Magnetohydrodynamical Paradigm: from X-ray Binaries to AGNs". This Session was over at 2-30 P. M.

The third and final Session III commenced at 2-30 P. M. and was chaired by Professor B. Dasgupta. This Session was devoted to presentation of research papers by young scholars. In this Session, Aniruddha Mitra of 'Centre for Plasma Studies, Jadavpur University' read his paper entitled 'Lights on Dark Matter: Dynamics and Consequences'. Asheh Paul of the 'Department of Mathematics, Jadavpur University' presented his paper titled 'Dust ion acoustic solitary structures in presence of nonthermally distributed electrons and positrons'. Pankaj K. Shaw of the 'Saha

*Institute of Nuclear Physics, Kolkata* read his research paper titled 'Investigation of coherent modes and their role in intermittent oscillations using empirical mode decomposition'. The other collaborators of Pankaj Kumar Shaw were S. Ghosh, D. Saha, M. S. Janaki and A. N. S. Iyengar (all from the Saha Institute of Nuclear Physics, Kolkata).

The seminar was well-attended and there was free interaction between the speakers and the audience. After a formal *Valedictory Session* and tea, the Seminar ended a little after 4-30 P.M.

(A few photograph are in the back inside cover)

**Reported by**  
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## Report of the International Seminar on 'Cosmology, Relativity and Gravity Waves'

The Asiatic Society, Kolkata organized a two-day international seminar on 'Cosmology, Relativity and Gravity Waves' on 15<sup>th</sup>- 16<sup>th</sup> February, 2017 at Vidyasagar Hall of the Society in its own premises in Park Street.

On Wednesday, the 15<sup>th</sup> February, the 'Inaugural Session' commenced at 11-00 A. M. and continued till 11-45 A. M. The session started with an opening song by the staff members of the Asiatic Society. The 'Welcome Address' was delivered by Dr. Satyabrata Chakrabarti, the General Secretary of the Society. Professor Rajkumar Roychoudhury, the Co-ordinator of the Seminar talked about the theme of the programme. Professor Isha Mahammad, President of the Asiatic Society delivered the 'Presidential Address'. Dr. Sujit Kumar Das, the Treasure of the Asiatic Society gave the *Vote of Thanks*.

After a brief tea break, the 'Plenary lecture' was delivered by Professor Naresh Dadhich of the Inter University Centre for Astronomy and Astrophysics (IUCAA), Pune. He gave a very interesting lecture titled 'Why Einstein (Had I been born in 1844!)?: Relativity for Everyone'. In his lecture, he said that by probing the general concept of universality and invoking simple common sense arguments, one could arrive at Einstein's theories of relativity without use of any mathematics and physics. The lecture was from 12 hours to 1-00 P. M. This session was chaired by Professor Rajkumar Roychoudhury. From 1-00 P. M. to 2-00 P. M., Professor S. Suskov of the Kazan Federal University of Russia delivered an invited talk, the title of his lecture being 'Horndeski Cosmology'. He spoke about the history and perspective and presented a systematic analysis of homogeneous and

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isotropic cosmologies in a particular Horndeski model with Galileon shift symmetry. This session was chaired by Professor Naresh Dadhich. After a brief lunch break, the next invited talk was given by Professor Banibrata Mukhopadhyay of the Indian Institute of Science (IISc), Bangalore. He spoke for an hour from 2-30 P. M. to 3-30 P. M. and the title of his talk was '*Recent exciting developments in gravitational physics*'. He spoke about Einstein's equation of general relativity and Chandrasekhar's mass-limit of white dwarfs. Later he unfolded the applications of the above-mentioned theories in order to describe today's Universe. The last invited talk was delivered by Dr. Supratik Pal of the Indian Statistical Institute (ISI), Kolkata. The talk titled '*Inflationary cosmology post-Planck 2015*' lasted for an hour from 3-30 P. M. to 4-30 P. M. He gave a broad overview of the present status of inflationary cosmology based on the latest data from Planck 2015. He also highlighted on certain avenues that may be explored further, such as, primordial non-Gaussianities, tensor models, CMB spectral distortions etc. This last session of the day was chaired by Professor S. Suskov.

On Thursday, the 16<sup>th</sup> February, the first invited talk was given by Professor Kamal Nandi, Director, Zel'dovich International Centre for Astro-Physics, Ufa, Russia. This session was chaired by Professor Alok Kanti Bhaumik, Vice-President of the Asiatic Society. In his talk titled '*Ring-down gravity waves: How far wormhole observables can mimic those of a black hole?*', Professor Nandi explained the phenomena of the stability of Ellis-Bronnikov wormhole

gave independent arguments in support. The lecture was from 11 A. M. to 12 hours. The next session was chaired by Professor Kamal Nandi and Professor F. Rahaman of the Jadavpur University, Kolkata spoke for an hour from 1-00 P. M. to 2-00 P. M. his title of the talk was '*Spacetime Causality*'. He discussed the causal structures of some well-known spacetimes.

After the customary lunch break the session on 'contributed talks' commenced at 1-30 P. M. In the first session, the speakers were Dr. Koushik Ghosh of Burdwan University and Dr. Indranath Bhattacharya of the Barasat Government College. The duration of the session was for an hour and was chaired by Professor F. Rahaman. Dr. K. Ghosh spoke on '*Models of Non-Conservative Mass Transfers in Contact Binary Stars*' and Dr. Bhattacharya spoke on '*Cosmological Singularities in the Phantom Energy Era*'. The last session on 'contributed talks' was from 2-30 P. M. to 3-05 P. M. and was chaired by Dr. Koushik Ghosh. In this session, U. F. Mondal of Behala College spoke about new exact solutions of static Wormholes under specified conditions. Prabir Gharami of Jadavpur University talked on '*Angular Momentum Loss in Contact Binary Stars due to Magnetic Braking*'.

There was an hour long '*Valedictory Session*' at the end of the International Seminar.

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