PSSI POPULAR LECTURE SERIES

BY
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TALK TITLE: THE MYSTERIOUS MAGNETIC PERSONALITY OF OUR SUN

ABSTRACT OF THE TALK

The Sun is the first astronomical object in which magnetic fields were discovered in 1908 by using the Zeeman effect. Even before this discovery of magnetic fields in sunspots, it was known that there is a 11-year cycle of sunspots, which could be identified as the magnetic cycle of the Sun after this discovery. The magnetic field of the Sun is also behind many other phenomena, such as the violent explosions known as solar flares, the corona much hotter than the solar surface and the solar wind. Only within the last few decades, major developments in plasma physics and magnetohydrodynamics (MHD) have at last provided a broad framework for the theoretical understanding of these phenomena connected with the solar magnetic fields. I shall give a general introduction to this field – with some emphasis on the research interests of our group. A more detailed account of this field can be found in my popular science book:
http://www.amazon.in/Natures-Third-Cycle-Story-Sunspots/dp/0199674752/

ABOUT THE SPEAKER

Arnab Rai Choudhuri has been in the physics faculty of the Indian Institute of Science since 1987, formally retired in 2022, and continuing as Honorary Professor. He received his PhD in 1985 from the University of Chicago under the supervision of Eugene Parker. Choudhuri has carried on theoretical research on the formation of sunspots and the 11-year sunspot cycle. He was one of the originators of the flux transport dynamo model, the currently favoured theoretical model of the 11-year sunspot cycle. He is the author of two advanced textbooks, The Physics of Fluids and Plasmas (CUP, 1998) and Astrophysics for Physicists (CUP, 2010), used in many universities around the world. Choudhuri is an elected Fellow of all the three science academies of India as well as TWAS. He had been a recipient of the Alexander von Humboldt Fellowship and the JC Bose Fellowship. He was the second Indian to receive the Chandrasekhar Prize of Plasma Physics in 2022.

Prof. Arnab Rai Choudhuri

Date: 01 May 2025 (Thursday)
Time: 2:30 PM
Venue: ONLINE

URL: https://bharatvc.nic.in/join/7977469199
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The Plasma Science Society of India (PSSI) was established in 1978 with the vision of fostering excellence in plasma research, education, and application. PSSI represents a gathering of minds dedicated to unraveling the complexities of plasma phenomena and harnessing its transformative power. With a diverse membership drawn from academia, industry, and government institutions. It serves as a vibrant hub for interdisciplinary exchange and synergistic partnerships. Moreover, PSSI is committed to nurturing the next generation of plasma scientists and engineers. Through various programs, educational outreach initiatives, national symposiums, and colloquium the society cultivates a vibrant ecosystem in the field of plasma science and technology. By empowering young minds with the tools and inspiration to pursue careers in plasma science, PSSI ensures a legacy of innovation that will endure for generations to come.