Seminar

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Institute for Plasma Research

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Title: Formation and Evolution of the very First Stars (Primordial Stars) in the Universe

Speaker: Dr. Jayanta Dutta
Harish-Chandra Research Institute, Prayagraj

Date: 26th April 2024 (Friday)

Time: 3.30 PM

Venue: Committee Room 3, IPR

Abstract

The emergence of the very First Stars in our observable universe has persuaded a number of groups to work persistently from a theoretical perspective as well as through state-of-the-art observations. In this talk, we will briefly discuss the physical concept and the complex process from the point of view of a broad audience that is likely to gain a rudimentary understanding of this highly exciting area of "Theoretical Cosmology". Within that framework, we present a computational set-up of classical solid-body rotations of different realisations of the unstable gas clumps that formed within the dark matter minihalo. The *high-resolution* 3D simulations are capable of investigating the protostellar evolution and development of the circumstellar disc that fragments further to form the multiple protostars. In this context, we also elaborate on our current understanding of their possible existence in present-day galaxies, which has become one of the prime interests of modern cosmology.