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Seeing Hot and Energetic Universe through X-ray Eyes (Invited Talk)

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X-rays are the signatures of the high-energy Universe. The X-ray band probes extreme environments in the Universe, such as those near black holes or the surface of neutron stars. Observations in X-ray energies of the sky provides the opportunity to study such exotic objects in the Universe, allowing the exploration of physical processes in extreme conditions. Many space missions and instruments were realized since 1960s that contributed to the present understanding of the physics of various astronomical sources. A steady progress in technological development has put X-ray astronomy in the mainstay of astronomy and astrophysics. In this talk, I will provide an overview of the observational X-ray astronomy as well as current and future X-ray missions that have provided some path breaking scientific results to shed new lights on the nature of various astronomical sources as well as the physical mechanisms by which the X-rays are emitted. I will also briefly mention about India's first X-ray polarimetry instrument POLIX onboard XpoSat satellite that will soon be launched.

Presenter: RANA, Vikram

Session Classification: Workshop on Astrophysical Relativity