

The First Annual
Homi Bhabha Distinguished Public Lecture in Physics

The Universe Before the Hot Big Bang

ABSTRACT

It is known for long time that the Universe went through the hot Big Bang stage, with extraordinarily high temperatures of matter and extremely rapid expansion of space. It is less known that existing observational data strongly suggest that the hot Big Bang stage was not the first one, but was preceded by yet another epoch with completely different – and unusual – properties.

The best guess for that early epoch is cosmic inflation, but alternative theories are not yet ruled out. It is reassuring that future cosmological observations will most likely be capable of unveiling the nature of the earliest epoch and physics that governed the Universe at that time.

November 18, 2014, 5:30 PM
C.V. Raman Auditorium,
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ABOUT THE SPEAKER

Academician Prof. Rubakov is a leading cosmologist and quantum field theorist renowned for his work on the physics of the early universe, dark energy, dark matter and extra dimensions.

Prof. Rubakov received a Ph.D. in physics and mathematics from the Institute for Nuclear Research, Russian Academy of Sciences in 1981. He then began his career as a junior research fellow at the Institute for Nuclear Research, Russian Academy of Sciences, becoming vice-director of research in 1987 and chief scientist in 1994. He is also a professor of physics at Moscow State University.

He has authored more than 150 research papers on particle physics, gravitation and cosmology, many of which have been very influential in the field. His work with Kuzmin and Shaposhnikov on baryon-number non-conservation in the early universe has over 2000 citations. He has written textbooks on classical gauge fields and on Hot Big Bang theory.



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