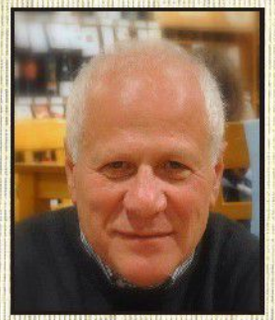
Brief Biography of Professor Lev Titarchuk



Professor Lev Titarchuk received his Doctorate Degree in Astrophysics from Leningrad State University, Leningrad (St. Petersburg), USSR in June 1989. Lev Titarchuk is a world recognized expert in High Energy Astrophysics, the Radiative Transfer Theory, Data Analysis and interpretation of X-ray observational data of neutron star and black hole candidates. He participated in quite a few approved CGRO, RXTE Guest Investigation Program and NASA APRA Program. He worked at NASA Goddard Space Flight Centre for about two decades. Subsequently, he was a full Professor at the University of Ferrara, Italy; a Research Professor, George Mason University, USA; visiting Scientist in Naval Research Laboratory. His contribution together with Dr. Rashid Sunyaev paved the way to explain observational results through Comptonization processes. Prof. Titarchuk is an author of more than 100 papers in refereed journal.

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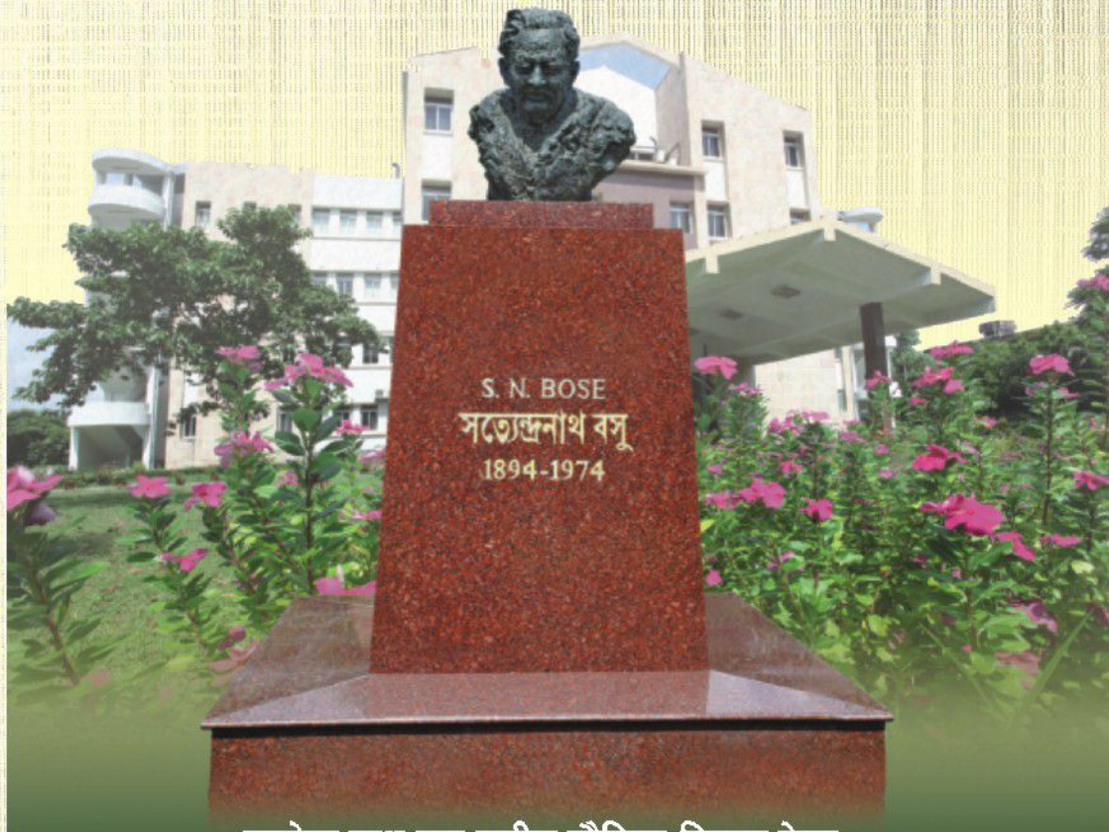

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Satyendra Nath Bose National Centre for Basic Sciences

Comptonization Problem and Its Solution in Application to the Spectra of the Neutron Star and Black Hole Source

Professor Lev Titarchuk

ABSTRACT

In 2017 the work on the Comptonization (Sunyaev-Titarchuk) seen in the X-ray spectra of astrophysical sources was a candidate for the Nobel Prize in Physics. In this talk I provide all the details of the exciting prehistory of this topic and precise details of this discovery. The solution of this problem and its subsequent development and application to the spectra of accreting neutron star (NS) and black hole (BH) binaries reveals a lot of information on these objects. In particular, now we can unambiguously distinguish between a NS and a BH (Galactic or extragalactic) using correlations of their spectral indices vs mass accretion rate (or QPO frequency). I further demonstrate how we can determine a BH mass using this correlation.

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and
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by

Professor Lev Titarchuk
University of Ferrara and Moscow State University

on

Friday, 9th November, 2018 at 4:00 pm

to celebrate

125th Birth Anniversary of Professor Satyendra Nath Bose

Prof. Samit Kumar Ray
Director

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