

Activity Report

Name of the Program: One Day Special Lecture on Gravitational Waves - The new messenger of the Universe

Date: 02 July 2021

Organized by

Department of Mathematics & Physics in Collaboration with IQAC & IT Sub-Committee

Speakers:

- 1) **Dr. Sarbari Guha**, Associate Professor, Department of Physics, St. Xavier's College, Kolkata

Youtube link: <https://www.youtube.com/watch?v=nJLWgmQaIpM>

Number of Teachers present: 23

Number of Students present: 78

Teachers present from the Department of Physics, Rabindra Mahavidyalaya:

Dr. Uday Kumar Khan, Dr. Safiul Alam Mollick, Dr. Arpan De, Mr. Somnath Pal, Mr. Arkadeep Guchhait

Theme

Gravitational wave detection relies on precise measurements of space-time distortions caused by cosmic cataclysms, providing us with a new way to explore the universe's hidden dynamics.

Outcome

The speaker discussed that Gravitational waves are elusive ripples in the fabric of space-time, which reveal the universe's hidden choreography. These waves are born from cataclysmic events—colliding black holes, exploding stars—they traverse space at light speed, stretching and squeezing everything in their path. These waves, predicted by Einstein, unlock cosmic secrets, from galaxy formation to super massive black holes. They are detected using Laser Interferometry, LIGO and Virgo, Pulsar Timing Arrays and Space-Based Detectors, etc. Participants were introduced with above mentioned information.

**RABINDRA MAHAVIDYALAYA
CHAMPADANGA, HOOGHLY**

Department of Physics

Notice

Date: 24-06-2021

It is to notify that a **One Day Special Lecture on Gravitational Waves - The new messenger of the Universe** will be organized by the Department of Physics in Association with IQAC, Rabindra Mahavidyalaya on **02 July 2021**. All are cordially invited to that event.

Link of the Poster: https://rabindramahavidyalaya.ac.in/dept_notice/special%20lecture%20-%20Gravitational%20Waves-%2002%20July%202021.pdf

Dr. Prasanta Bhattacharyya
Principial

Dr. Safiul Alam Mollick
Head
Department of Physics

RABINDRA MAHAVIDYALAYA

Champadanga, Hooghly



Date: 02.07.2021
Friday, 7:30 pm

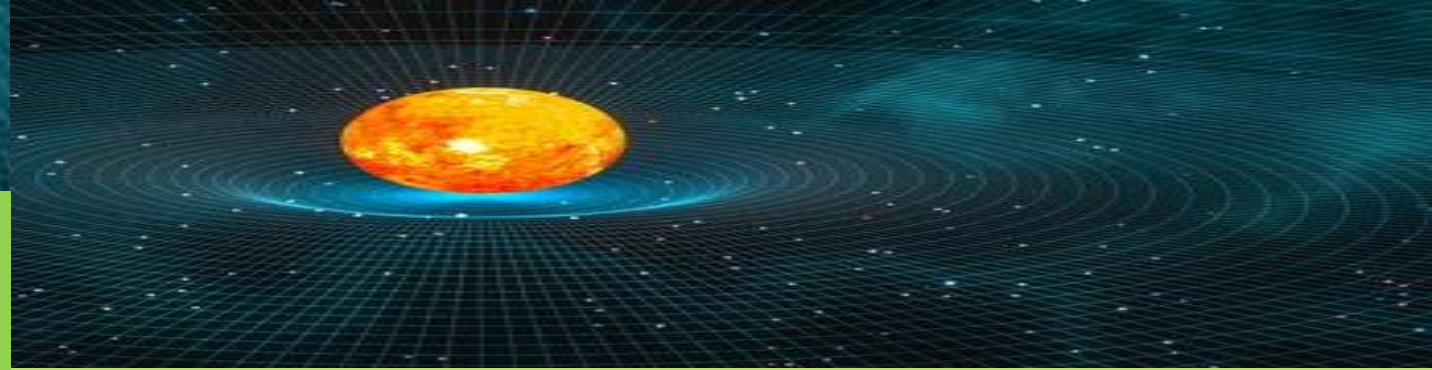
One Day Special Lecture

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Topic

Gravitational Waves: The new messenger of the Universe



Speaker

Dr. Sarbari Guha,
Associate Professor,
Department of Physics,
St. Xavier's College,
Kolkata



Dr. Prasanta Bhattacharyya
Principal
Rabindra Mahavidyalaya



Prof. Tanmay Bandyopadhyay
Coordinator IQAC
Rabindra Mahavidyalaya

Host

Dr. Shuvojit Mondal
Assistant Professor & Head,
Department of Mathematics,
Rabindra Mahavidyalaya

IT Support:

Dr. Rabiul Alam
Convener, IT Sub-committee
Rabindra Mahavidyalaya

[Registration Link \(click\)](#)

[WhatsApp Link](#)

[YouTube Link](#)

Topic: Gravitational Waves: The new messenger of the Universe

Speaker - **Dr. Sarbari Guha**, Associate Professor, Department of Physics, St. Xavier's College, Kolkata.

Abstract:

According to Newton's theory of gravity, whenever a mass changes position, the entire gravitational field throughout the universe changes instantaneously and all gravitational interactions also change accordingly. But Einstein's Theory of General Relativity asserts that no information can travel faster than the speed of light in vacuum, including information on the positions of masses in the universe, which is communicated through the gravitational field. Thus General Relativity predicts that any change in a gravitational field will travel through the universe at the speed of light, and these changes in the gravitational field are nothing but gravitational waves. In this talk, we will try to gather a bird's eye view of the evolution of the concept of gravity and gravitational waves, and end with a discussion of the emerging field of gravitational-wave astronomy.

Programme Schedule, 02 July 2021 (Duration: 1 Hr 30 Mints)

7:30 pm- 7: 32pm: Welcome address by (**Dr. Uday kumar Khan, Associate Professor & Head, Department of Physics, Rabindra Mahavidyalaya**)

7:33pm-7:38pm: Inaugural Speech by Principal (**Dr. Prasanta Bhattacharyya, Principal, Rabindra Mahavidyalaya**)

7:39pm-7:44pm: Introductory Speech by IQAC Co-ordinator (**Prof. Tanmay Bandyopadhyay, IQAC Co-ordinator, Rabindra Mahavidyalaya**)

7:45pm- 8:35pm: Speaker (**Dr. Sarbari Guha, Associate Professor, Department of Physics, St. Xavier's College, Kolkata.**)

8:36pm- 8:54pm: Question & Answer session by (**Mr. Somnath Pal, SACT, Department of Physics, Rabindra Mahavidyalaya**)

8:55pm- 9:00pm: Vote of Thanks by (**Dr. Krishna Kumar Mondal, Assistant Professor, Department of Mathematics, Rabindra Mahavidyalaya**)