ASTERIA

Observational Astronomy and Space Science Club

Dayananda Sagar University, School of Engineering, Harohalli Campus,
Ramanagara Dt.-562112
Department of Physics

Hosting Department: Physics
Faculty In-Charge: Dr. Vanitha M. K.
Student Coordinators (2nd Year): Karan Sharma, Rutu Patil
Student Coordinators (1st Year): Manya, Shravya, Pratham Shetty, Shreekar

Activities

1. Introductory Astronomy Discussion – May 2024

The first activity of Asteria for the academic year began with an engaging session led by Dr. Vanitha M. K., conducted in Lecture Hall 2 (LH2) of the School of Engineering, DSU Harohalli Campus in May 2024. The focus of the session was on advanced concepts in modern astronomy, specifically LIGO (Laser Interferometer Gravitational-Wave Observatory) and the phenomenon of gravitational waves. Dr. Vanitha introduced students to the scientific breakthroughs made through gravitational wave detection and how they serve as a gateway to understanding cosmic events such as black hole mergers and neutron star collisions.

The session also highlighted the evolving astronomical landscape and its growing relevance to engineering disciplines. Dr. Vanitha effectively connected astronomy to fields such as electronics, data science, and aerospace, encouraging students to explore interdisciplinary applications. The one-hour session witnessed the participation of approximately 40 to 50 enthusiastic students and left them with a heightened curiosity toward space sciences. It served as an excellent kickoff to the academic year's activities for the Asteria club.

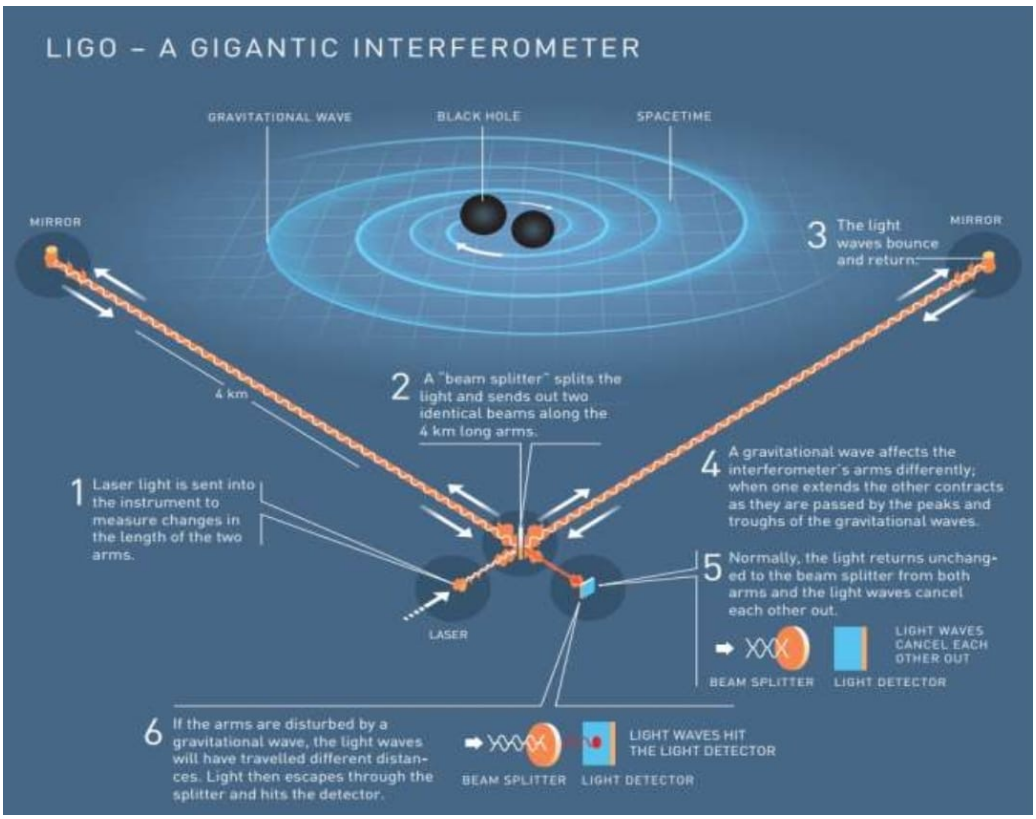

Figure 1: LIGO facility - Groundbreaking instrument for gravitational wave detection.

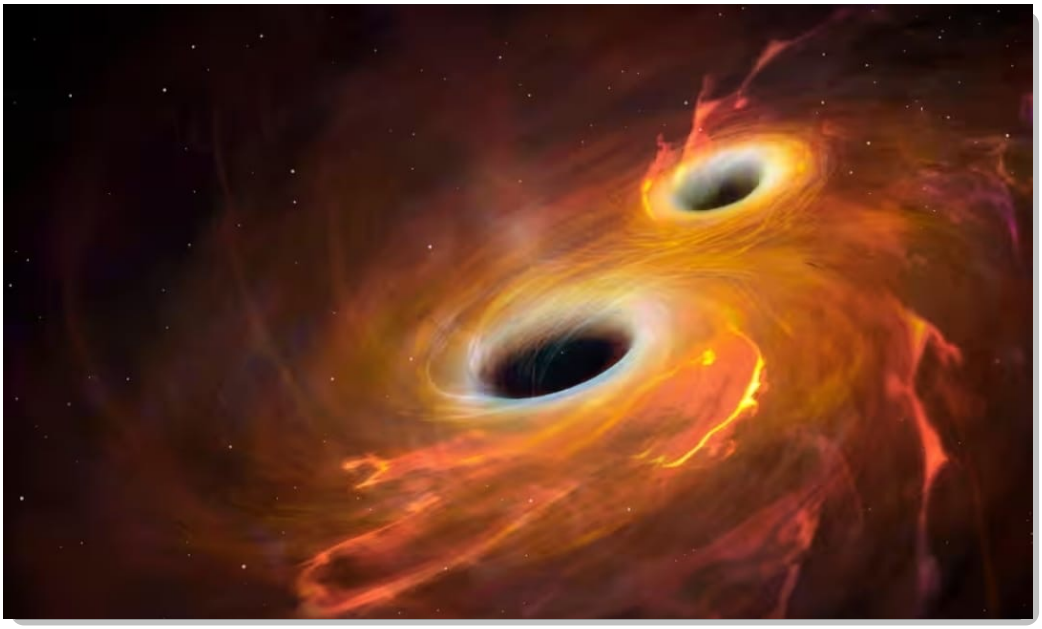

Figure 2: Two black holes merging, emitting gravitational waves detected by LIGO.

2. Student Presentations on Global Scientific Frontiers – 9th January 2025

On 9th January 2025, first-year students of the Asteria club conducted a series of informative presentations under the guidance of Dr. Vanitha M. K. The session was held in Lecture Hall 2 (LH2) and covered topics such as CERN, LIGO, and emerging quantum technologies in the context of future space travel. Students shared insights into how global scientific infrastructures like the Large Hadron Collider and LIGO contribute to fundamental physics, and how quantum advancements may revolutionize exploration beyond Earth. This session not only showcased the enthusiasm of the newest batch of students but also promoted a spirit of scientific dialogue and collaboration within the club.

Presentation 1: Introduction to orbital mechanics.

Presentation 2: Quantum theories and exploration.

Group photo with participants and faculty.