



Contribution ID: 331

Type: **Oral Presentation**

Gravitational waves with ground-based detectors

Tuesday, June 10, 2025 12:10 PM (25 minutes)

In this talk, I will provide an overview of the history of LIGO and Virgo, focusing on key advancements in precision measurement and the challenges faced by these kilometer-scale interferometers that make gravitational-wave detections possible. I will summarize the latest results from the LIGO-Virgo-KAGRA detectors, starting with the groundbreaking first detection in 2015, and discuss their far-reaching implications. Additionally, I will outline the upcoming schedule and planned upgrades for the next data-taking runs. The talk will conclude with a look ahead at the future evolution of ground-based astronomy over the coming decades.

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Session Classification: Keynote lectures