

GWADW2023 - Gravitational-Wave Advanced Detector Workshop



Sunday, 21 May 2023 - Saturday, 27 May 2023

Hotel Hermitage, La Biodola, Isola d'Elba

Scientific Programme

The workshop aims at covering work currently being done on GW detectors in view of the next and future observations with current infrastructures, as well as studies and Research and Development for observatories planned for the next decade. This edition emphasizes the low frequency detection band, a challenge for current detectors which may become crucial for the future. Two poster sessions are planned to allow informal discussion.

For contribution submission the following subjects have been identified, matching the sessions in the program.

Perspective for GW observation

Reviews on scientific potential of upgraded current interferometers and future observatories

O5 and Post O5

GW observatories

Current detectors and prototypes

Current detectors and planned upgrades. Work on prototypes.

O4 Commissioning

O5 and Post O5 plans

Prototypes for R&D

Coating thermal noise

Low Frequency Noise

Mitigation of noise at low frequency

Low Frequency Sensing and Control

Low Frequency Modeling, AI use

Seismic isolation suspension modeling, integration with controls and sensing. Novel control methods, use of Artificial Intelligence.

Thermal effects

Thermal effects on interferometer performance.

Thermal effects in interferometry and squeezing

Thermal effects simulation

Infrastructures

Next observatories infrastructures

Infrastructures

Site characterization

Cryogenics

Cryogenics for observatories

Moon and Space

High Frequency detection

Detection in the kHz band and beyond.

Beyond 3G

Ideas and concepts for squeezing, other optical configurations, applications to quantum sensing and information processing.

Other

Contributions not entering in other tracks.