



Contribution ID: 28

Type: **Plenary talk**

Next generation instruments for gravitational-wave observation

Thursday, 31 August 2023 10:00 (30 minutes)

Gravitational waves (GWs) are the newest tool for exploring the Universe. Advanced Virgo and Advanced LIGO have opened a new window on the Universe, detecting GW signals in the Hz-kHz frequency range. The Pulsar Timing Array experiments have just announced the detection of GWs in the nano-Hz frequency range. A new generation of GW interferometric observatories is under preparation and will take over from the current generation of GW detectors in the next decade. This will make it possible to probe almost the entire Universe for GW signals. The Einstein Telescope (ET) and the Cosmic Explorer (CE) are at the forefront of the design, preparation and realisation of a next-generation gravitational wave observatory in Europe and the USA respectively. The space-based GW detector LISA will be launched in the next decade and will complete the new series of GW observatories.

With a special focus on the Einstein Telescope observatory, an overview of the scientific objectives, the observatory design, the required technologies and the project organisation will be presented.

Presenter: Dr PUNTURO, Michele

Session Classification: Plenary session

Track Classification: Gravitational waves