The combination of ET and WST for future generation standard sirens analysis

Wednesday 28 May 2025 10:48 (12 minutes)

The Wide-field Spectroscopic Telescope (WST) is an innovative 12-meter-class facility that combines a large field of view (3 square degrees) with a high-multiplex (30,000) multi-object spectrograph operating in both medium- and high-resolution modes (MOS). Additionally, it features a giant panoramic integral field spectro-graph (IFS) covering 3×3 square arcminutes.

WST will produce the next-generation galaxy spectroscopic catalog, reaching up to z~1.5 with high completeness, while also enabling the exploration of the Universe up to z~5 through quasars and Lyman Break Galaxies with unprecedented coverage.

Such a catalog would be not only ideal but also essential for future gravitational wave observations such as Einstein Telescope (ET), as it will provide the reference catalog to identify the host galaxies of compact binary mergers needed to enable precision cosmology.

In this talk, I will present an overview of WST and its synergy with ET, also discuss the efforts we are coordinating within the WST Cosmology Group to develop the best possible catalogs for the study of dark sirens and their implications for cosmology.

For talks:

No, if I cannot get a talk slot, I don't want to give any presentation

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