

ET-WST synergy for next generation multi-messenger observations

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The Einstein Telescope (ET) will be an innovative next generation gravitational wave (GW) interferometer. With ET it will be possible to explore a large volume of the Universe and detect thousands of binary neutron star systems mergers (BNS) per year. The corresponding electromagnetic (EM) counterparts will likely be faint and to be searched in the large error regions of ET GW signals. Beyond the detection, the bottleneck of MM science will be to gather the spectroscopic data required to identify and characterize EM counterpart candidates. Integral Field Spectroscopy (IFS) and Multi-Object Spectroscopy (MOS) can play a key role in achieving this goal. I will present the study I am carrying out to assess the impact of the next generation IFS and MOS (such as the WST) on the detection, identification and characterisation of EM counterparts of ET BNSs, with the aim to provide the specifications required, and to prepare the synergy with ET.

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