

Shaping the Italian contribution to HWO



Contribution ID: 53

Type: **not specified**

Supernova science with the HWO

Thursday 10 July 2025 18:00 (10 minutes)

While primarily designed for the detection and characterization of exoplanets, the Habitable Worlds Observatory will also provide a transformative platform for time-domain astrophysics, particularly supernova science. Its combination of high-angular-resolution imaging, wide spectral coverage from the UV to near-infrared, and high-throughput spectroscopy will enable key advances in several areas, such as 1) the studies of supernova progenitors in nearby galaxies, 2) the search and discovery of high-redshift peculiar events like pair-instability events and the first stellar explosions, 3) the chemical composition and Fe-peak nucleosynthesis, and finally 4) to explore the synergy with multi-messenger astrophysics.

Author: IZZO, Luca (Istituto Nazionale di Astrofisica (INAF))

Co-authors: Dr BOTTICELLA, Maria Teresa (Istituto Nazionale di Astrofisica (INAF)); PETRECCA, Vincenzo (Istituto Nazionale di Astrofisica (INAF))

Presenter: IZZO, Luca (Istituto Nazionale di Astrofisica (INAF))

Session Classification: Extragalactic Astrophysics