

WEAVE: First light and current status

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WEAVE is the next-generation wide-field survey facility for the William Herschel Telescope (WHT). WEAVE will provide the instrument required for full scientific exploitation of the Gaia, LOFAR, and APERTIF surveys in the Northern Hemisphere. WEAVE is a multi-object and multi-integral-field-unit (IFU) facility utilizing a large, new 2-degree-diameter prime focus corrector at the WHT with a pick-and-place fibre positioner system hosting nearly 1000 multi-object fibres or 20 mini-IFUs for each observation, or a single wide-field IFU. The fibres are fed into a dual-beam spectrograph located in the GHRIL enclosure on the WHT's Nasmyth platform. The spectrograph records nearly 1000 spectra simultaneously at a resolution of $R \sim 5000$ over an instantaneous wavelength range of 366-959 nm or at a resolution of $R \sim 20000$ over two more-limited wavelength ranges. WEAVE has been on sky since late 2022. The WEAVE Survey will provide complete phase-space coordinates of roughly 3 million stars in the northern sky selected with ESO's Gaia satellite, chemical analysis of more than 1 million stars from Gaia, half a million massive stars in the Galactic Plane, distances and properties of galaxies selected from the low-frequency radio-wave surveys being conducted with LOFAR, "three-dimensional" spectroscopy of galaxies selected from surveys using the new Apertif focal plane array at WSRT, and deep surveys of galaxy clusters and moderate-redshift galaxies. In this talk I will discuss the design, construction, and (on-going) commissioning of WEAVE and the impressive "first-light" data we've already collected with it.

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