

Apertif–WEAVE–Apertif Memorandum of Understanding

Definitions:

An “MoU” is a Memorandum of Understanding

An “Apertif Participant” is an Apertif participant following the Apertif Participant and Data Usage Policy

“WEAVE-Apertif” is the WEAVE-Apertif survey detailed at <https://ingconfluence.ing.iac.es:8444/confluence//display/WEAV/WEAVE-APERTIF>

A “WEAVE Participant” is a WEAVE Participant following WEAVE-EXE-004, The WEAVE Publication Policy

A “WEAVE-Apertif Participant” is a WEAVE Participant who is a stated member of the WEAVE-Apertif Science Team as found on <https://ingconfluence.ing.iac.es:8444/confluence//display/WEAV/Science+Team>

Reference documents:

WEAVE-EXE-004 The WEAVE Publication Policy (v1.2)

WEAVE-EXE-005 The WEAVE Data Policy (v1.1)

The Apertif Publication Policy (version 1.0)

The Apertif Participation and Data Usage Policy (version 1.0)

Apertif is an innovative focal-plane array system on the Westerbork synthesis radio telescope in Dwingeloo that will allow wide-field HI surveys out to cosmological distances ($z \sim 0.2$). With commissioning expected to finish in early 2019, Apertif will provide radio-source targets to WEAVE for optical follow-up of 100,000 massive gas-rich galaxies in a timely fashion. WEAVE is the next-generation spectroscopic survey facility for the Northern Hemisphere, to be installed in 2019 at the William Herschel Telescope of the Isaac Newton Group telescopes at the Roque de los Muchachos, La Palma, Canary Islands, Spain. The WEAVE-Apertif survey will be able to harness WEAVE's dual integral-field-unit (IFU) capability, as the large IFU will be ideally suited for large nearby galaxies, while the multiple small IFUs will be perfect for small and distant galaxies. A large-scale integral-field survey with WEAVE creates a strong synergy with the Apertif imaging surveys, significantly increasing the power of each instrument on its own.

- 1) This document outlines the terms of the Apertif/WEAVE-Apertif MoU, providing Apertif Participants who are not already WEAVE-Apertif participants the status of WEAVE “External Collaborator” as defined in Section 4.4 of WEAVE-EXE-004 and WEAVE-Apertif participants who are not already Apertif participants the status of Apertif “External Collaborator” as defined in Section 2.2.3 of the Apertif Participation and Data Usage Policy.
- 2) Apertif commits to provide a complete list of survey regions to WEAVE-Apertif. Furthermore, Apertif commits to provide a catalogue of HI detections in those regions, and FITS images of moment-0 and moment-1 maps of candidate HI-rich galaxies in those catalogues (“HI rich” to be specified after discussion between the teams) only to a small target-selection subteam of WEAVE-Apertif; the composition of this subteam will be agreed upon jointly by Apertif and WEAVE-Apertif. Apertif further commits to provide WEAVE-Apertif with final HI data cubes and level 3 data products, in particular moment maps, sub-cubes for line sources, and continuum maps, for only those galaxies that WEAVE-Apertif provides IFU data cubes to Apertif, as specified in point 3.

- 3) WEAVE-Apertif commits to provide IFU data cubes and advanced data products, including line strength maps and velocity and velocity dispersion maps, for those candidate HI-rich galaxies that have been observed during the execution of the WEAVE surveys to Apertif, as soon as those cubes have been processed and are in the WEAVE Archive System (WAS).
- 4) In agreement with WEAVE-EXE-005, only proprietary WEAVE data products from the WEAVE-Apertif survey and related calibration products are available to Apertif Participants (who are not already WEAVE-Apertif Participants). WEAVE data products include raw and reduced spectra and data cubes, as well as advanced data products; calibration products include instrumental calibration files and data products for flux and telluric line calibrations. The WAS will store those delivered Apertif data products specified in point 2. Similar to the WEAVE-Apertif data, these Apertif data will only be available to WEAVE-Apertif Participants (and Apertif Participants covered under Point 1) when in the WAS.
- 5) As per the Apertif Publication Policy, only Apertif Participants may propose and lead publications based on proprietary Apertif data. Conversely, as per WEAVE-EXE-004, only WEAVE Participants may propose and lead publications based on proprietary WEAVE data. The exceptions to these rules are as follows:
 - a. Any Apertif Participant can lead projects and papers based on proprietary WEAVE-Apertif data when combined with proprietary Apertif data.
 - b. Any WEAVE-Apertif participant can lead projects and papers based on proprietary Apertif data when combined with proprietary WEAVE-Apertif data.
 - c. The WEAVE Science Executive and Apertif Survey Executive will together assess the merits of further exceptional proposals and papers on a case-by-case basis in terms of the lack of required expertise in either collaboration or the respective merits of the Apertif or WEAVE-Apertif data to the proposal or paper. Such exceptions will be presented to the Apertif Survey Executive by the appropriate Apertif Participant and to the WEAVE Science Executive by the WEAVE-Apertif Science Team Lead.