

<https://www.observatoiredeparis.psl.eu/weave-an-instrument-for-the.html>

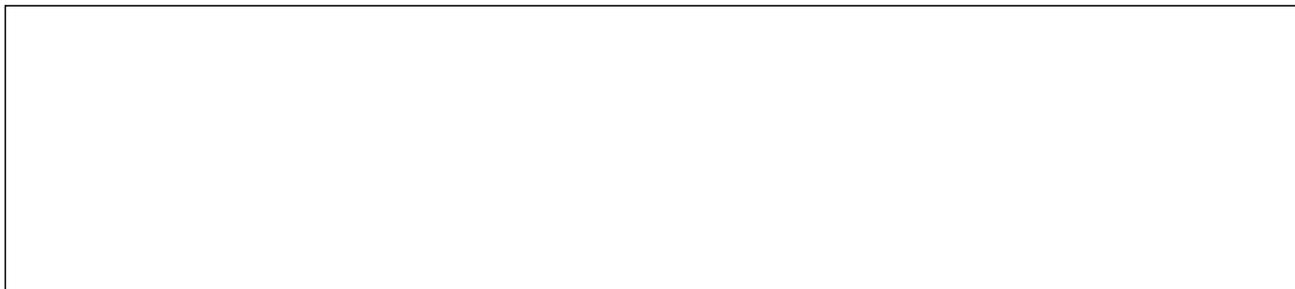


WEAVE : an instrument for the analysis of the lights of the Universe

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**Observatoire de Paris - PSL Centre de recherche en astronomie et
astrophysique**

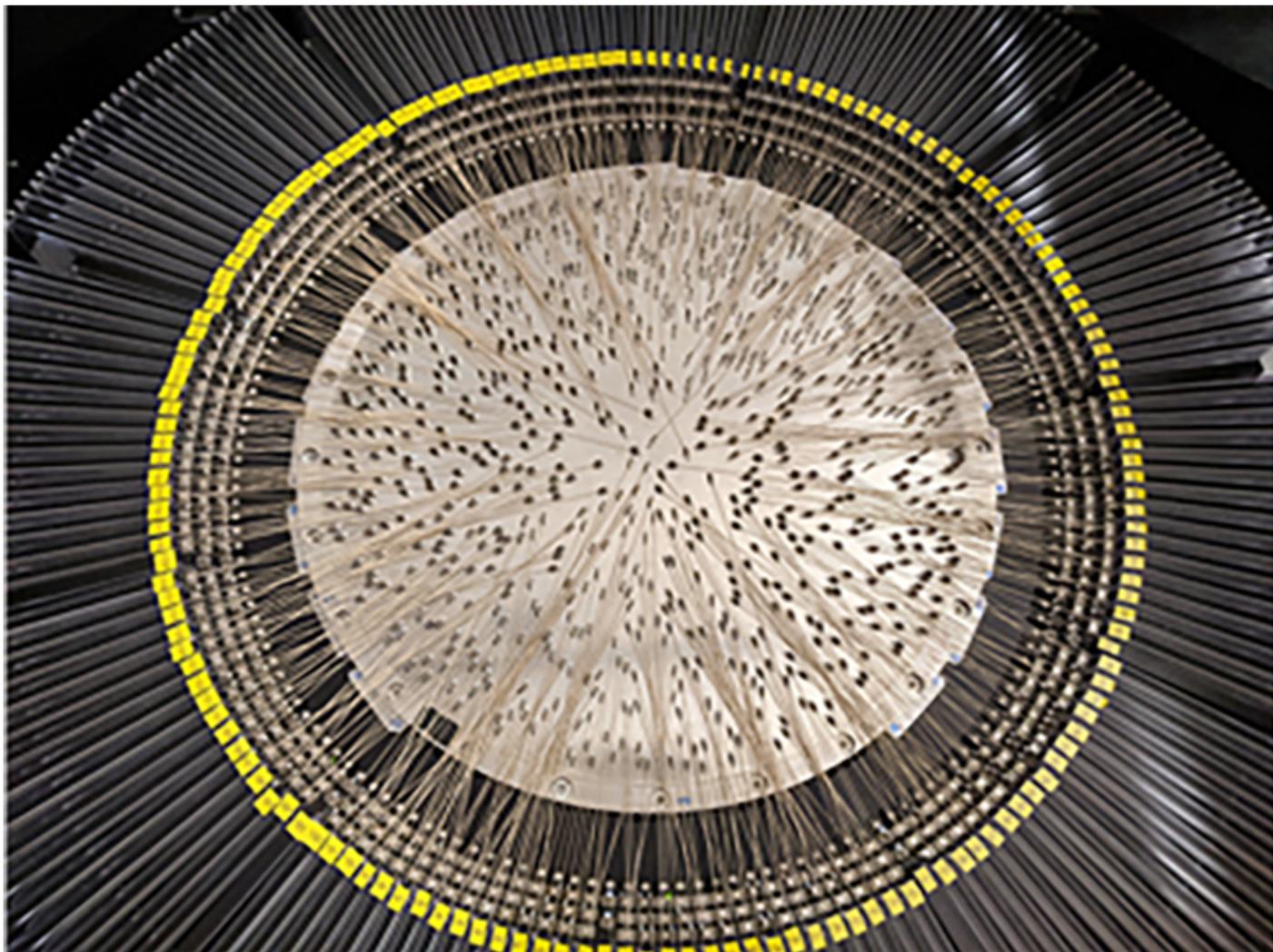
Supported in France by the CNRS, the Observatoire de Paris - PSL and the Observatoire de la Côte d'Azur, the WEAVE spectrograph has arrived in the Canary Islands. This new instrument will meet the needs of the astronomical community, which is now equipped with a more efficient tool for observing the Universe. The tests of its components have confirmed its excellent capabilities and it should start observing the sky in October 2021.



- Installed at the Roque de los Muchachos Observatory (Canary Islands, Spain), the WEAVE instrument will be able to observe nearly 1000 astronomical objects simultaneously.
 - Born from a large international collaboration, it should make its first observations in October 2021.
 - It will allow detailed studies of the Milky Way, the evolution of galaxies and the most distant light sources.
- The analysis of the light emitted by celestial objects allows astrophysicists to deduce much information about them. This method of analysis, called astronomical spectroscopy, has made great strides over the last 40 years with the development of so-called "multi-object" spectroscopy, which studies the light from several targets simultaneously. It is now making a new leap forward with the WEAVE spectrograph.

This new instrument will be able to deploy almost a thousand optical fibers over a very large field of view and will be able to study simultaneously the light emitted by as many astronomical objects. The versatility of this spectrograph will allow astronomers to work more efficiently and thus make advances in astrophysics, for the study of the evolution of galaxies and quasars, which are very luminous galaxy nuclei, for example.

Its main components have now arrived at the Roque de los Muchachos Observatory (Canary Islands, Spain) where WEAVE is to be installed this summer on the William Herschel telescope and is demonstrating optimal capabilities. Based on these results, WEAVE can be expected to provide high quality spectra. Its commissioning and first sky observations are planned for October 2021.



Un champ WEAVE entièrement configuré, avec 700 des 950 fibres environ placées par deux robots (hors du cadre), sur place dans le télescope William Herschel © Gavin Dalton/U. Oxford/STFC-RAL Space

The consortium that designed WEAVE involved teams in the United Kingdom, the Netherlands, Spain, Italy, Mexico and France. In France, it benefited from the expertise of the Galaxies, stars, physics, instrumentation (Observatoire de Paris - PSL/CNRS) and Lagrange (CNRS/Observatoire de la Côte d'Azur/Université Côte d'Azur) laboratories, and from the support of the Observatoire des sciences de l'Univers Terre homme environnement temps astronomie (ex-Observatoire de Besançon ; CNRS/Université Bourgogne Franche-Comté)

- In France, the construction of WEAVE was financed by the CNRS, the Observatoire de Paris-PSL, the regions of Île-de-France and Franche-Comté. Several other international entities have also participated in its financing : - in the United Kingdom : the Science and Technology Infrastructure Council (STFC,),
- in the Netherlands : the Netherlands School for Astronomical Research (NOVA), the Netherlands Research Council (NWO),
- in Spain : the Institute of Astrophysics of the Canary Islands (IAC), the Isaac Newton International Telescope Group, the Spanish Ministry of Economic Affairs and Digital Transformation,
- in Italy : the National Institute of Astrophysics (INAF),
- in Mexico : the National Institute of Astrophysics, Optics and Electronics (INAOE),
- in Sweden : the Observatory of Lund, the University of Uppsala,
- in Germany : the Leibniz Institute for Astrophysics in Potsdam (AIP), the Max Planck Institute for Astronomy (MPIA),
- in the United States : the University of Pennsylvania,
- in Hungary : the Konkoly observatory.