

PRESS RELEASE

Nîmes, November 5, 2021



CREDITS: CEA - MIRIM TEST BENCH WITH TWO SYMETRIE HEXAPODS

Two Symetrie hexapods tested an instrument of NASA Webb telescope

The French company Symetrie is now onboard with NASA. Its technologies helped testing a high precision optical instrument of the giant space telescope James Webb, which will be launched by Ariane 5 on December 18, 2021.

Webb is an international collaboration between NASA, ESA and CSA, the Canadian Space Agency. This very large telescope will observe the first galaxies, extrasolar planets and many other astronomical objects. In practice, the hexapods supplied by Symetrie have enabled the Astrophysics Department of CEA, responsible for the design, assembly and tests of MIRIM (Mid Infra Red Imager), to qualify this infrared imager, the very one that will capture some of the images that will be analyzed on Earth.

The precision and resolution of the hexapods developed by Symetrie have made it possible to successfully test the coronagraphic mode of the imager. A coronagraph blocks out the direct light from a bright object, such as a star, so that nearby objects can be observed. "The team is very satisfied with the hexapods performances," notes Samuel Ronayette, the CEA optical engineer in charge of the characterization tests of MIRIM. "You should know that this is the first time a new generation of coronagraphs will be sent into space. "

Hexapods are mechanical systems with six cylinders that allow you to position an object. The optical bench developed to test MIRIM integrates an electromechanical hexapod, which aligns the optical source with an accuracy of 10 μm . It is associated with a manual hexapod, which positions the cryostat, a thermal enclosure containing MIRIM at a temperature of 4 Kelvin (-269 ° Celsius or -452 ° Fahrenheit), close to its operating temperature in space.

A new direct order from NASA

With its technology now validated, the French company is proud to announce a direct order from NASA! "This future hexapod will be installed at the Armstrong Flight Research Center of the US Space Agency in the Mojave Desert in California. » specifies Olivier Lapiere, Chairman and co-founder of Symetrie.

Working in the space sector since 2007, Symetrie has become a strategic supplier to major European and international industrialists and research centers in this field. Its turnover in this area has increased by more than 50% over the past five years.

Created in 2001, SYMETRIE is an innovative company specializing in high precision positioning and motion hexapods of all sizes.

SYMETRIE in a few words:

- 40 employees, 6 M€ turnover, an R&D department, 70% of engineers
- Major customers: Airbus Defence and Space, Leonardo, Naval Group, Rio Tinto, Safran, Thales, University of Hawaii, University of Western Australia...
- Large scale technological projects: Megajoule Laser; ground-based telescopes: DAG, DOT, NOEMA, OAJ and Pan STARRS 2; space: BepiColombo, EnMAP, Euclid, Gaia, JWST, MPO, MTG, PLATO, Sentinel 5, synchrotrons: APS, the Australian Synchrotron, DLS, Elettra, ESRF, IHEP, LBL, LNLS, MAX-lab, PAL, PSI, RRCAT, SLAC, SOLEIL, SSRF...

Contact us for more information!

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CREDITS: CEA - MIRIM IMAGER OF JAMES WEBB SPACE TELESCOPE



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