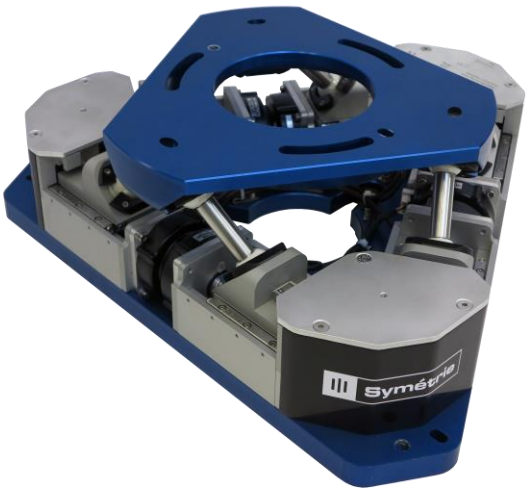
Symétrie

METROLOGY AND POSITIONING



PRESS RELEASE
Nimes, April 17, 2018

New non-magnetic hexapod for precision motion control in high magnetic fields

Symetrie delivered a non-magnetic hexapod for ion trapping experiments to the Quantum Control Laboratory of the University of Sydney in Australia.

Designed to position a 80 kg payload, this customized non-magnetic hexapod is aligning a UHV chamber in the 6 degrees of freedom in order to be collinear with the symmetry axis of the 2 teslas magnet and trap atomic ions.
It offers travel ranges of 10 mm in translation and 4° in rotation while having a very low profile: its height is only 155 mm in mid position.

Benefiting from Symetrie's fifteen years of experience in the development of high precision parallel robots, this non-magnetic hexapod provides a repeatability of ± 0.6 µm at the pivot point, which is here 600 mm away from the hexapod and where the ions will sit.
To be compatible with the 2 teslas static magnetic field in immediate proximity and reach high precision performances, ultrasonic non-magnetic motors and absolute linear encoders have been integrated.

The School of Physics at the University of Sydney is a leading Physics department in Australia. The research undertaken in the Quantum Control Laboratory is focused on the development of quantum control and metrology techniques with an emphasis on quantum physics and the engineering of new quantum-enabled technologies from quantum computation to quantum sensing.
Their research uses small collections of trapped atomic ions as model quantum coherent systems.

SYMETRIE is an innovative company specializing in high precision positioning and motion hexapods of all sizes for over 15 years.

SYMETRIE in a few words:

- 4.5 M€ turnover, an R&D department, 70% of engineers
- Major customers: Airbus Defence and Space, AMOS, CEA, Leonardo, Rio Tinto, Safran, Thales, University of Hawaii, University of Western Australia...
- Large scale technological projects: Megajoule Laser; ground or space telescopes: Aries, DAG, JWST, NOEMA, OAJ and Pan STARRS 2; satellites: BepiColombo, Gaia, MPO and MTG, synchrotrons: APS, the Australian Synchrotron, DLS, Elettra, ESRF, LBL, MAX-lab, PAL, RRCAT, SLAC, SOLEIL...

Contact us for more information!
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