



Cryogenics Operations 2018

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Installation and commissioning of JT-60SA Cryoplant

The cryogenic system of JT-60SA is a French voluntary contribution to the joint European - Japanese project, a superconducting tokamak presently under assembly at Naka, Japan. This fusion experiment is part of the Broader Approach agreement between Europe and Japan in order to support ITER and to investigate advanced plasma scenarios.

The contract for this cryoplant was concluded with Air Liquide Advanced Technologies (AL-aT) company in December 2012 and the successful reception tests were completed at the end of 2016 in close collaboration between the French atomic and alternative energies commission (CEA), Fusion for Energy (F4E) and the National Institutes for Quantum and Radiological Science and Technology (QST) in Naka, Japan.

In 2017 another cool down of this 9.5 kW equivalent at 4.5K cryoplant was performed by the Japanese operators. The installation and the commissioning of the plant will be presented, with a focus on the main characteristic of this cryoplant: the heat load smoothing control will be detailed. First lesson learnt from the commissioning will be discussed and shared with the cryogenic community.

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