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C4Or1B-08: Turbo-Brayton cryogenic systems : commissioning of TBF-175 for HTS cable cooling

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The development of Turbo-Brayton technology started in 2007 with the goal to provide efficient and reliable solution for the cooling of HTS cable. Since then, several units have been manufactured, tested and operated for many different applications, as the temperature range covered by the technology is very wide, ranging from 20K to 200K. In August 2018, the first operation of a Turbo-Brayton at 67K has been done in Air Liquide Advanced Technologies facilities. TBF-175 was selected to provide 7.5kW@67K for the cooling of a HTS cable in Korea. The TBF has been tested on a test bench, and then commissioned in October in Korea. The COP of 0.086 of the TBF-175 was measured and operation scenarios have been validated successfully.

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