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## **SESSION 4: Stirling and Stirling-type Pulse Tube Coolers**

Paper 4.2

Tuesday ORAL Session

2:30 PM

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### ***Air Liquide LPTC New Generation Engineering Model Test Results***

*S. Quemerais, J.-M. Niot, F. Carpentier, M. Garcia, V. Girault, A. Vuillemin, A. Bakkas, D. Lopes and P.-O. Mine, Air Liquide Adv. Tech., Sassenage, France; F. Claeysen and X. de Lepine, Cedrat Tech., Meylan, France; L. Marelli, Centre Nat'l d'Etudes Spatiales, Toulouse, France*

Thanks to CNES funding, Air Liquide is developing a new generation of the Large Pulse Tube Cryocooler (LPTC), the latter being already in operation on various European missions, such as MeteoSat Third Generation. This new cooler, namely LPTC-NG, is fitted with a 300W compressor developed by Air Liquide in cooperation with Cedrat Technologies, and a new cold finger. It targets the 50K – 70K temperature range at cold tip level, with a heat lift about twice the capability of the LPTC, i.e. 6W at 50K.

An engineering model of the LPTC-NG cryocooler mechanical assembly has been developed and tested in order to assess the cryogenics performances as well as the micro-vibration levels of the machine.

Test results (cryogenics performances and micro-vibration behaviour) will be presented.