



Contribution ID: 1002

Type: **Poster Presentation**

C3Po1D-01 [05]: Experimental results of ADR cooling tuned for operation at 50 mK or higher temperature

Wednesday, July 24, 2019 9:00 AM (2 hours)

Several astrophysics missions are currently planned, with significant European participations. To reach their targeted performances, cooling down to temperature of 50 or 100 mK, depending on the instrument design is required. Multi stage ADR cooling can provide such performances and is well adapted for space. At the early stage of the mission definition various cryogenics design are considered implying different cooling requirements.

A 3-stage ADR cooler demonstration model for space has been used to demonstrate and validate several operation modes. Results will be presented for a 100 mK cooling including a continuous 400 mK stage as well as for 300 mK continuous cooler.

A specific focus has also been put on 50 mK temperature measurements demonstrating the tight thermal stability, well below 1 μ K that can be reached with this technology.

Primary authors: Mr DUVAL, Jean-Marc (CEA); Mr ATTARD, Anthony (CEA)

Presenter: Mr DUVAL, Jean-Marc (CEA)

Session Classification: C3Po1D - Very Low Temperature Aerospace Cryocoolers