



Contribution ID: 278

Type: **Poster Presentation**

Investigation on a two-cold-finger pulse tube cryocooler

Wednesday, 12 July 2017 09:00 (2 hours)

Two-cold-finger pulse tube cryocooler is used to meet the demand of multi-temperature refrigeration. It contains a linear compressor and two cold fingers. A series of cold fingers are tested respectively in this paper first. Then, any two of these cold fingers are chosen to connect the compressor and their performance are tested. Finally, the coupling results are compared. The results show that the size of pulse tube refrigerator, cooling capacity of cold finger and input power of compressor have influence on the gas distribution and phase position. In this study, refrigerating efficiency and coupling efficiency are used to evaluate its practicability.

Primary author: Mrs OUYANG, Yang (Key Laboratory of Space Energy Conversion Technologies, Technical Institute of Physics and Chemistry, CAS and University of Chinese Academy of Sciences)

Co-authors: Mr CHEN, Houlei (Key Laboratory of Space Energy Conversion Technologies, Technical Institute of Physics and Chemistry, CAS); Mr XING, Enchun (Key Laboratory of Space Energy Conversion Technologies, Technical Institute of Physics and Chemistry, CAS and University of Chinese Academy of Sciences); Mr MA, Yuexue (Key Laboratory of Space Energy Conversion Technologies, Technical Institute of Physics and Chemistry, CAS and University of Chinese Academy of Sciences); Mr LI, Xu (State Key Laboratory of Technologies in Space Cryogenic Propellants, Technical Institute of Physics and Chemistry, CAS and University of Chinese Academy of Sciences); Prof. LIANG, Jingtao; QUAN, Jia (Key Laboratory of Space Energy Conversion Technologies, Technical Institute of Physics and Chemistry)

Presenter: QUAN, Jia (Key Laboratory of Space Energy Conversion Technologies, Technical Institute of Physics and Chemistry)

Session Classification: C3PoA - Pulse Tube Cryocoolers (Aerospace)