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## **C1Po2B-01: Experimental study of the influence of cold head displacement on single-stage Gifford-McMahon cryocooler system performance**

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Cooling performance in positive displacement cryocoolers is dependent on the relationship between the compressor's displacement and the cold head's displacement. An experimental investigation explored the relationship between compressor and cold end displacement for a single-stage gas-driven GM-type cold head operated at different frequencies. As loss mechanisms can be frequency related, the investigation also compared varying the cold end displacement by changing stroke length instead of changing operating frequency. Results showing these relationships are presented, and their impact on seal wear and variable-speed operation are discussed.

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