
**SESSION 6: GM & GM-Type Pulse Tube
Cryocoolers**

Paper No. 6-1 Wednesday Morning 9:00 AM

***Development of a High Capacity Single
Stage GM Cryocooler***

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Markets for single-stage GM cryocoolers are pushing towards higher-capacity systems with higher efficiencies. Sumitomo (SHI) Cryogenics of America, Inc. has developed a high-performance, low-noise single-stage cryocooler for LN2 generators, HTS applications and circulating cooling system applications, leading to higher liquefaction rates, faster cool down and better efficiencies. The development of this high-capacity single-stage GM cryocooler, which has a capacity of more than 600 W at 77K at 60 Hz is described in this paper. The presented research includes trade-off studies during development, such as the cryocooler performance at different speeds, heat exchanger efficiencies and regenerator designs.