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Impact of Varying Acceleration to the Performance of Stirling-Type Pulse Tube Cryocooler

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Stirling-Type Pulse Tube Cryocooler is widely used in Aerocrafts which are often faced with changing acceleration. While the performance of the cryocooler will decay at the circumstance. Experiments find that both the cryogen's temperature field in the cold finger and the Compressor's pistion gap are affected by variable acceleration. A model is made for analyzing the changing of their performance whose result matches the experiment.The experiments is a reference to future cryocooler design.And give a way to control the performance by adding a certain power of compressor.

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