



Contribution ID: 430

Type: Poster

## Test rig for the experimental evaluation of turbo-compressor impeller designs for light gases

*Tuesday, June 25, 2019 3:37PM (1 minute)*

Currently available turbo-compressors were designed for natural gas. In order to apply them for very light gases, such as neon-helium mixtures for cryogenic Turbo-Brayton cycles, further development is necessary. Therefore, a corresponding study on turbo-compressor technology is performed at the University of Stuttgart. New compressor stages with improved geometry are being designed for a turbo-compressor working with a neon-helium mixture. A dedicated turbo-compressor test rig is going to be built at the University of Stuttgart in cooperation with the Technical University of Dresden to analyse the efficiency of these compressor stages for neon-helium mixtures of varying composition. The design and control of the test rig together with the description of the planned experimental work will be presented on the respective poster.

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**Session Classification:** Poster session

**Track Classification:** Technical infrastructure & operation