

Convergent shock tube: new design, first results

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This paper reports on the progress of the AWE convergent shock tube (CST) project. The latest results from the old CST are presented and some of its limitations noted. A triangular notch perturbation experiment was presented at the last meeting of this workshop (Holder et al. 2003), an improved set of experimental results is presented and compared to results from the TURMOIL3D large eddy simulation (LES). The limitations of the old CST were used as a basis for its redesign

Details of the new design are discussed to illustrate the problems highlighted in conducting experimental work with the CST. Some information on the manufacture of the new facility is discussed focusing on areas where machining limitations had a potential to compromise the design and the solutions found.

Commissioning of the new facility is discussed and comments made on its performance and operational issues.

References

Holder, D.A., Smith, A.V., Barton, C.J. and Youngs, D.L., 2003 Mix experiments using a two-dimensional convergent shock-tube. *Laser and Particle Beams* 21, 403-409.