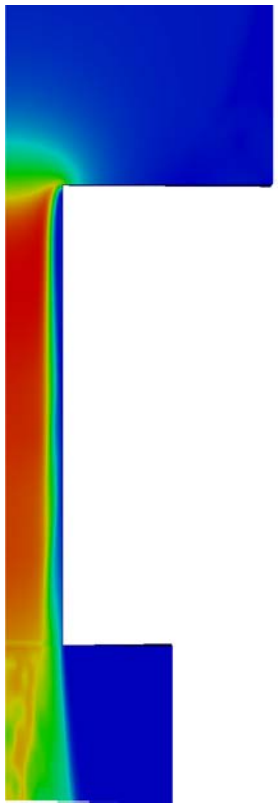
Numerical modeling of flashing jets

FlashFOAM developed within the frame of OpenFOAM:

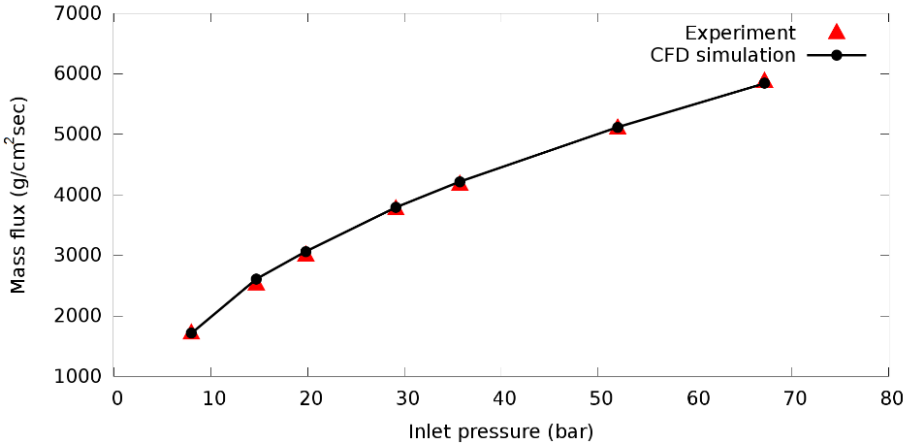
- Homogeneous Relaxation Model (HRM)
- Sub-Sonic/Sonic releases
- Choking (limited mass flow rate – independent
- of backpressure)
- Compressible/Incompressible
- Suitable for various flow regimes



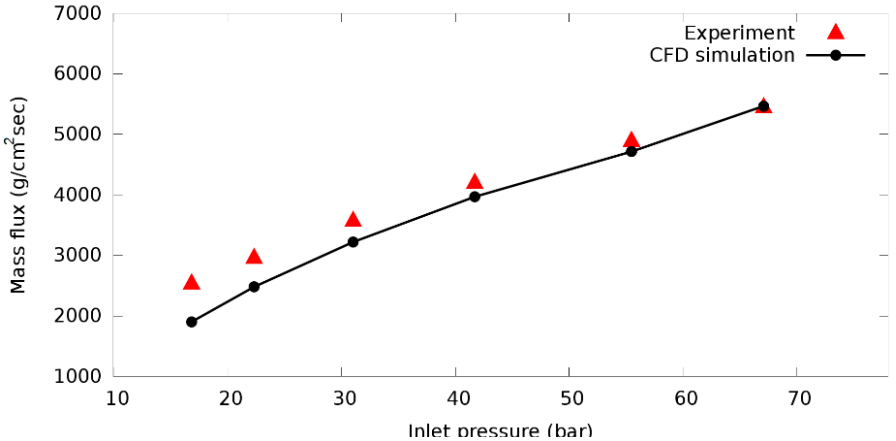
K. Lyras at al. 2017, 9th International Conference on Computational and Experimental Methods in Multiphase and Complex Flow

NASA EXPERIMENTS (1975): Mass flux

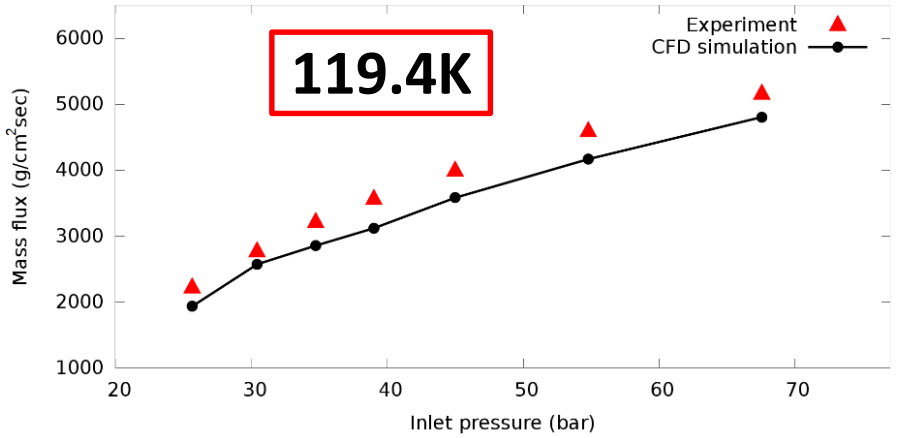
Initial temperature: 95.1K



110.1K



119.4K



Subcooled nitrogen through a sharp-edged orifice (NASA TM X-71760)

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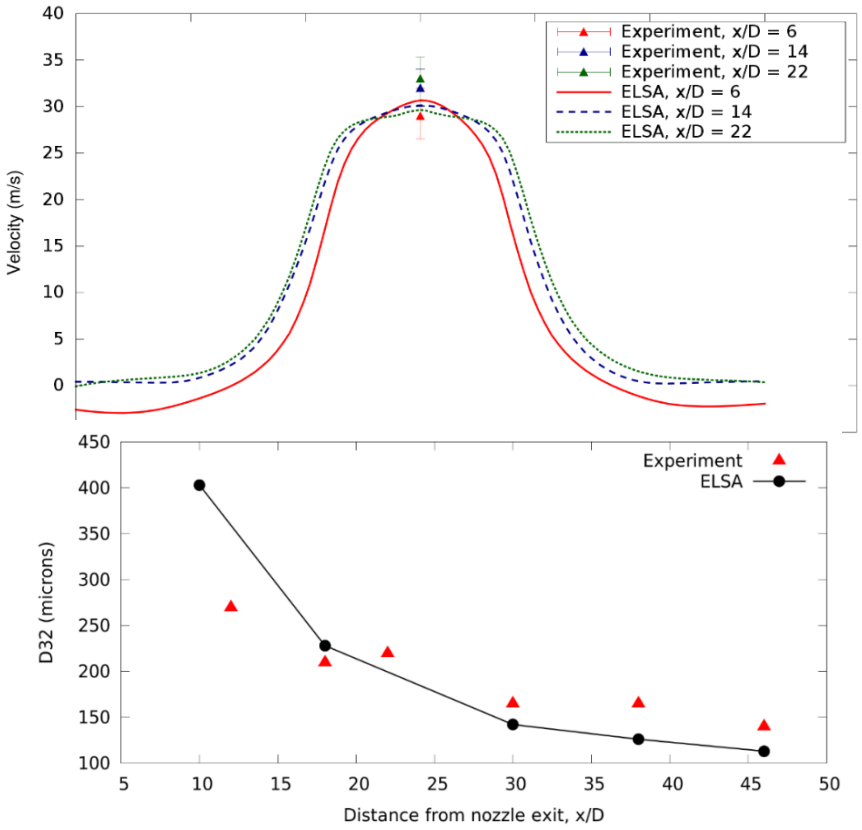
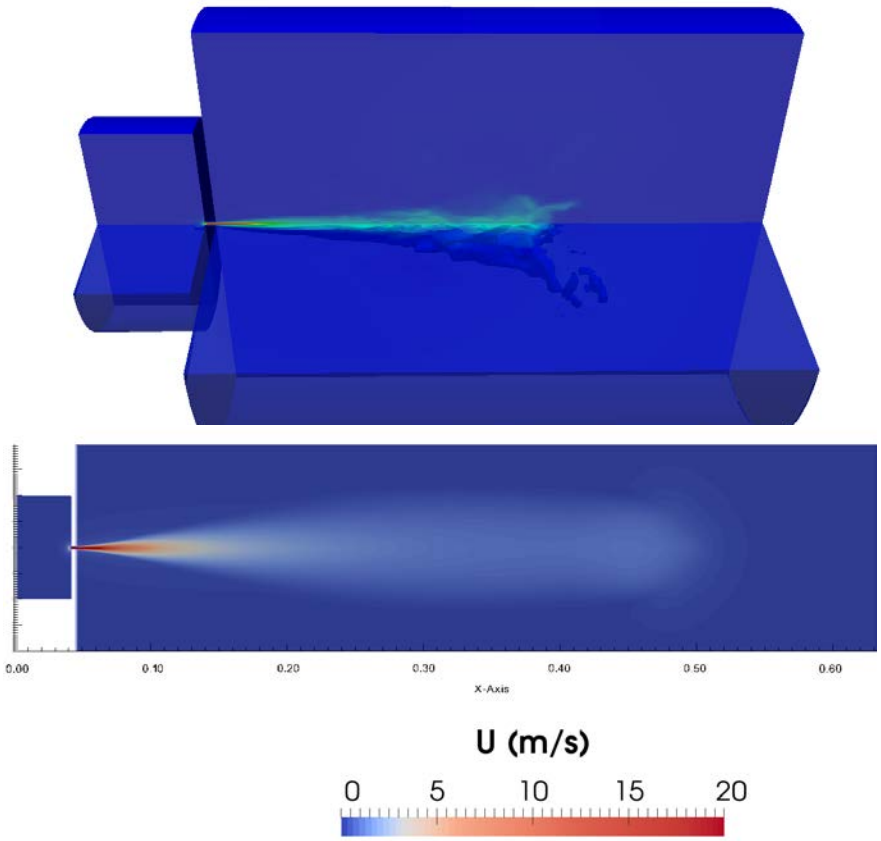
Validation with FLIE experiments (Yildiz, 2005)





Yildiz (2005)*

Experimental investigation of primary atomisation of flashing R134a through a nozzle.

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