

Numerical Simulation of Condensation in Minichannels

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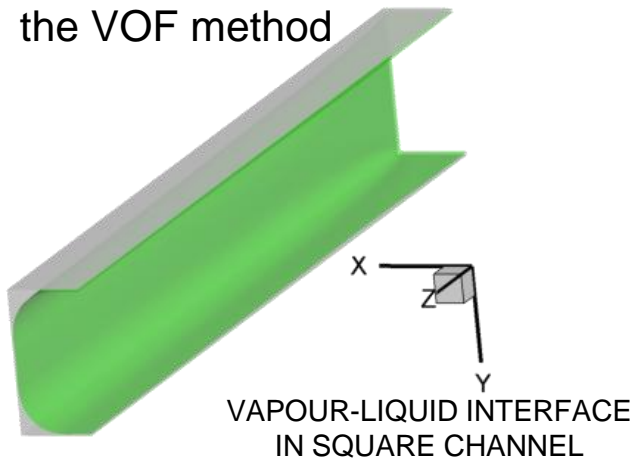
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OBJECTIVE

Study the condensation process inside minichannels with different geometries

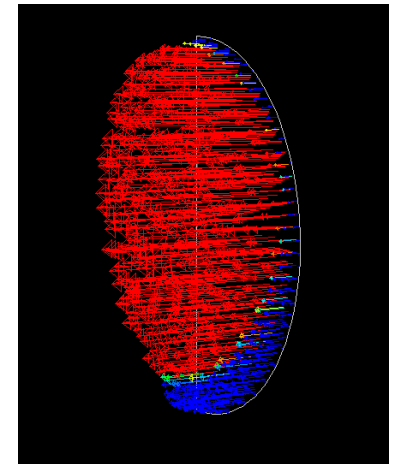
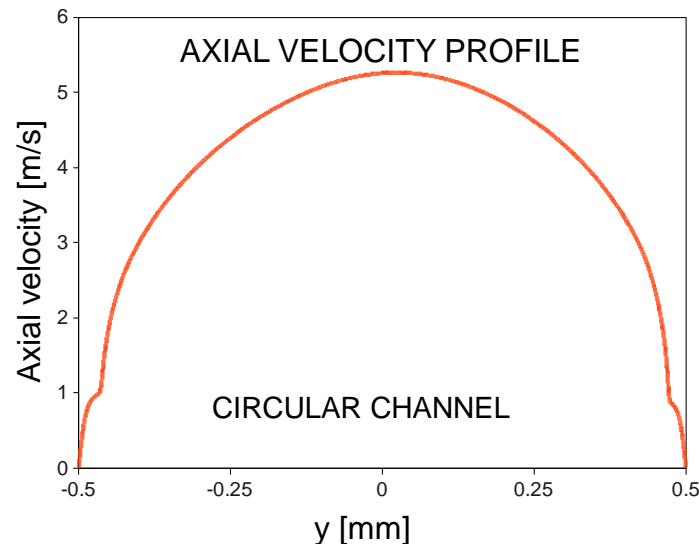
APPROACH

Direct tracking of the vapour-liquid interface by means of the VOF method



IMPACT

- Refrigerant charge minimization is one of the most important targets for HVAC applications to cope with the new environmental challenges
- Minichannels appears to be a good opportunity to minimize the charge in HVAC without loss in energy performance



PUBLICATIONS

E. da Riva, D. Del Col, S. V. Garimella and A. Cavallini, "The Importance of Turbulence during Condensation in a Horizontal Circular Minichannel," International Journal of Heat and Mass Transfer, Vol. 55, pp. 3470-3481, 2012