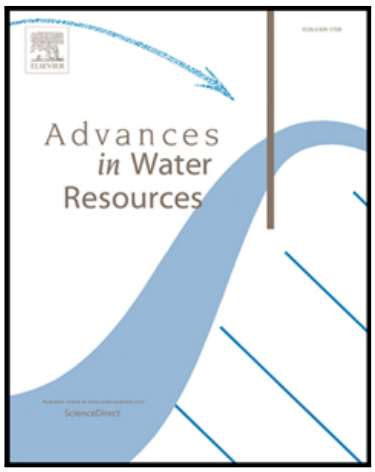

Pore-scale analysis of the minimum liquid film thickness around elongated bubbles in confined gas-liquid flows

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Highlights

- Long bubbles transported by liquid within micro-pores present surface undulations;
- The undulations are induced by the interplay among viscous, capillary and inertial forces;
- Computational and theoretical models are used to investigate long bubbles flows;
- The liquid film thins significantly upon the undulation crests;
- Undulations generate capillary forces that promote detachment of wall-adhering colloids.