



Waves in Guinness

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Volcanic vents in Strombolian volcanoes are thought to remain open and active without freezing by means of a convective circulation driven by the buoyant exsolution of water vapour as the pressure is released. A similar process occurs in a poured glass of Guinness, as well as other similar types of beer, and in addition waves are found to propagate downwards in the flow. We study a two-phase model for the flow, and show that waves can arise through an instability analogous to that which produces roll waves in shallow water flow.