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Topology of azimuthally travelling waves in thermocapillary liquid bridges FRANCESCO ROMANO, HENDRIK C. KUHLMANN, TU Wien — The topology of the laminar three-dimensional flow in a cylindrical liquid bridge driven by thermocapillary forces is investigated. Attention is focussed on travelling hydrothermal waves which are analysed in a co-rotating frame of reference in which the flow becomes steady. Chaotic and regular regions in form of KAM tori are found as well as closed streamlines. The flow features are discussed in terms of shape, location and period of closed orbits, KAM structures, their relation to the basic-state toroidal vortex flow and the dependence on the Marangoni number.

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