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Bifurcation theory methods in the problem about capillary-gravity waves in spatial layer of floating fluid

Bifurcation theory under group invariance conditions is applied to the free boundary value problem for the system of differential equations describing the surface waves in floating fluid. The linearized operator is sought by the change of variables "straightening" unknown free boundary. Bifurcating solutions asymptotics are calculated and their stability is investigated.

Reference: B. V. Loginov, Group analysis methods for construction and investigation of the BEq, Appl. of Math. **37** (1992),4,241-248.