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Instability and Dynamic Chaos of Non-equilibrium Filtration of Gaseous Liquid

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In our paper we discussed stability conditions of stationary filtration below bubble point pressures in the case of non-monotonous dependence of the relative phase permeability of fluid on the gas saturation. This non-monotonic manifests itself in abrupt increase of relative permeability of the liquid phase when gassing starts to evolve. It was shown the existence of regular auto oscillations evolving into deterministic chaos through the induction and degradation of quasi-regular flow.

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