GLOBAL PHASE DIAGRAM FOR COMPLEX FLUIDS UNDER FLOW

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All possible rheological behaviors of complex fluids under flow are systematically constructed using the Bautista-Manero-Puig model and the generic properties of the generalized Gibbs energy as a function of structural parameters, and the rate of deformation and stress tensors. The model constants depend on temperature, surfactant concentration and electrolyte-to-surfactant concentrations ratio. We have constructed these phenomena corresponding to different numbers of degrees of freedom in the thermodynamic parameter space, and have shown the features at each level of the global phase diagram to the parameter space of the model. We argue that our approach provides a basis to construct a classification scheme for global phase rheological diagrams for complex fluids.