

In a recent work Málek a Souček (2021), the authors propose several classes of simple models suitable to describe flows of binary mixtures, such as bubbly liquids, emulsions, etc. The objective of the bachelor thesis is to investigate the potential of these model by their investigation in simple geometrical settings linked with the assumption that the admissible flows are isothermal and unidirectional. In addition we will compare our results with other models.