

Wax deposition continues to be a relevant problem for petroleum production and transportation pipelines. This viscous and waxy flow is theoretically modelled with a simple conservation equation system, by expressing the wax layer thickness as function of time and duct length. The flow parameters are written, depending on these independent variables but also on the Reynolds and the Peclet numbers, where effect of latent heat on the wax layer thickness deposit is investigated. A numerical simulation of the flow, for two practical cases, is performed in order to predict the pipeline obstruction