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Numerical modelling for analysing drainage in irregular profile pipes using OpenFOAM

Paternina-Verona, Duban A.^a ; Coronado-Hernández, Oscar E.^a ; Fuertes-Miquel, Vicente S.^b [Save all to author list](#)^a Facultad de Ingeniería, Universidad Tecnológica de Bolívar, Cartagena, Colombia^b Universitat Politècnica de València Departamento de Ingeniería Hidráulica y, Valencia, Spain3 82th percentile
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Different methods of two-dimensional and three-dimensional numerical resolution models have been used to predict the air–water interaction in pipe systems in the early twenty-first century, where reliable and adequate results have been obtained when compared with experimental results. However, the study of the drainage process in pressurized systems with air admitted through openings has not been studied using this type of model due to the complexity that this represents. In this research, a two-dimensional numerical model is developed in the open-source software OpenFOAM; this model

Cited by 3 documents

Three-Dimensional Simulation of Transient Flows during the Emptying of Pipes with Entrapped Air

Paternina-Verona, D.A. , Coronado-Hernández, O.E. , Aguirre-Mendoza, A.M. (2023) *Journal of Hydraulic Engineering*

Rapid Filling Analysis with an Entrapped Air Pocket in Water Pipelines Using a 3D CFD Model

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Two-dimensional simulation of emptying manoeuvres in water pipelines with admitted air

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