

[Flow Filling of a Closed, Circular and Almost Horizontal Pipe](#)

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Publication date

2018/11/12

Conference

Conference of the Arabian Journal of Geosciences

Pages

371-373

Publisher

Springer, Cham

Description

When a water supply hydraulic project is achieved, particular attention must be given to the filling process of a discharge pipe. Transient phenomena will take place and the air phase may become an obstacle. In this work, we studied the filling of a closed circular pipe with a weak slope. So, we counted the filling time for three various discharges. We determined the flow type while taking in accounts the air and water phases. From our observation of the flow behaviour, we deduced that the flow is configured as a smooth stratified for the first and second tests. But for a higher value of the discharge speed, we visualized a wavy flow, with simple and elongated bubbles. This was observed until the complete pressurizing of the pipe. In this experimental case, air was completely removed, argued by our weak values of the flow discharge and the pipe size.