

## **Weighting function approximation in transient pipe flow**

Kamil URBANOWICZ

*West Pomeranian University of Technology, Szczecin, Poland*

E-mail: Kamil.Urbanowicz@zut.edu.pl

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In transient liquid pipe flow analysis a very important problem is accurate and effective modelling of hydraulic resistances. In order to simulate unsteady resistances one need to solve in a numerical way so called integral convolution of the mean local acceleration of liquid and a weighting function. In effective numerical calculations a necessary condition is that the weighting function needs to be defined as a finite sum of exponential terms. In a laminar flow that function keep a constant shape, in turbulent its shape is changing and is dependent of the instantaneous Reynolds number. In this article an easy method is present that enable to determine proper weighting function very straight forward way in a quick time. Also comparison of determined functions and prototype ones in a Laplace domain will be presented.