





Special Issue Reprint

### **Transient Flows**

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Transient flows represent a field of research that has greatly advanced in the last few decades; however, there are still many aspects of this topic that require further research. Transient flows result from sudden changes in flow conditions in pipeline systems because of planned or accidental maneuvers. Failures related to the effects of these flows can lead to major accidents and significant damage to pipeline systems. At present, transient flow analysis is a fundamental part of the design of fluid systems.

Transient flow analysis is a complex research topic. In recent years, considerable progress has been made due to developments in computer science, numerical models, and novel analysis techniques. This Special Issue focuses on all of the advancements which have been made in relation to the following aspects of this field: transient flows, mathematical simulations, new analysis techniques, computational fluid dynamics (CFD), laboratory tests, protection elements and systems against water hammer, innovative strategies for controlling water hammer, hydraulic transients with entrapped air, hydraulic transients with water column separation, the consequences and risks of hydraulic transients, etc.





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