

Study on flow below sluice gate in irrigation systems

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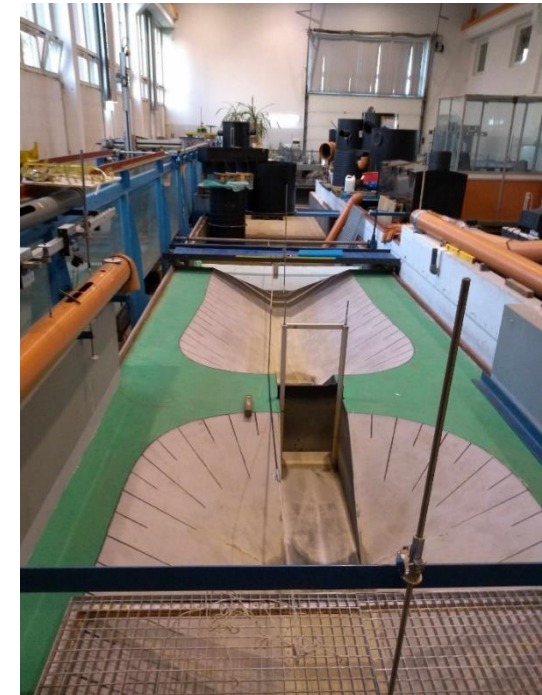
AIMS AND SCOPE

The aim of the study was to demonstrate the usefulness of the CFD (Computational Fluid Dynamics) method - ANSYS FLUENT solver, to assess the hydraulic conditions of the flow through the sluice gate used in the irrigation system for water distribution.

The scope of work includes:

- implementation of the 3D model of the sluice gate,
- calculations of hydraulic flow elements using the VOF (Volume of Fluid) model.

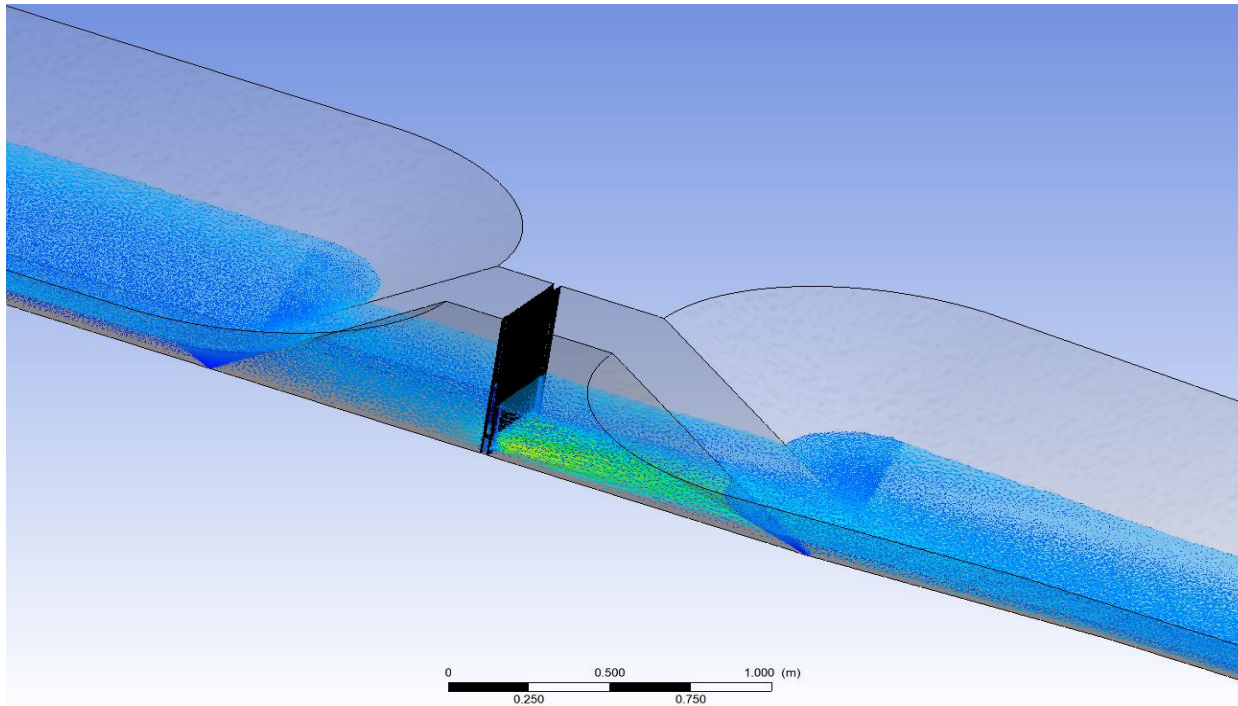
Physical model – flume model



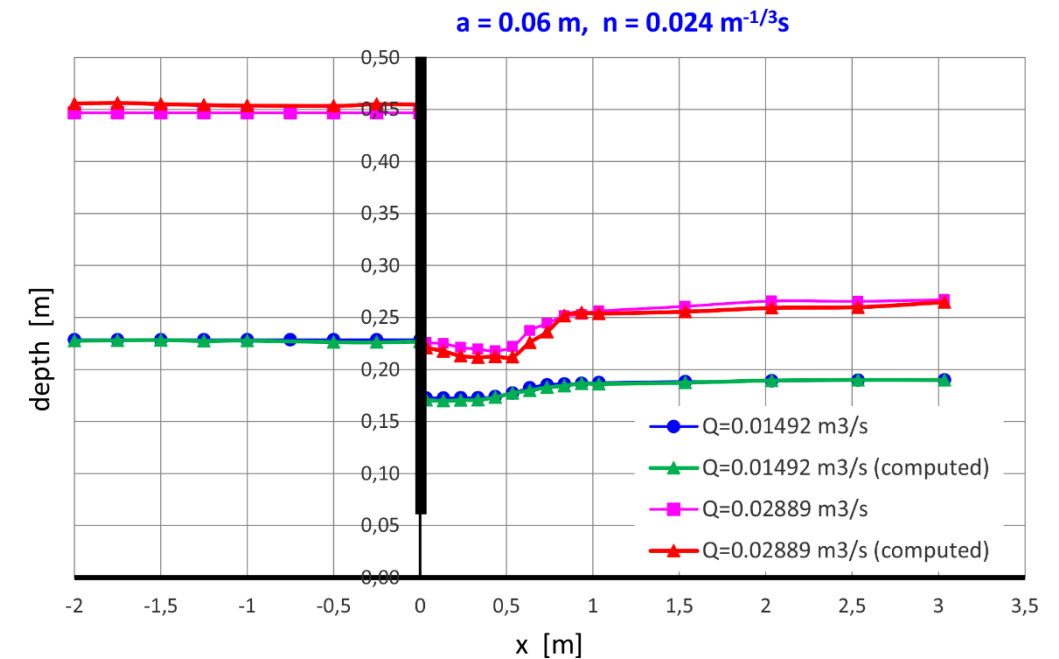
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Selected Results



Computed submerged sluice gate outflow



Measured and computed water profiles