

Can we use hydraulic handbooks in blind trust? Two examples from a real-world complex hydraulic system

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ABSTRACT

In this work, we investigate whether the parameters of physics-based hydraulic models, omnipresent in every relevant engineering handbook, can be used in blind trust in a real-world complex system. Here, we focus on the discharge coefficient for flows through a sluice gate and the Manning's coefficient for steady flows, and we compare their typical literature values (experimentally derived) against the ones obtained via a “grey-box” calibration approach using real flow data from the complex raw-water conveyance system of Athens, Greece.

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