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On the propagation of viscous gravity currents of non-Newtonian fluids in channels with varying cross section and inclination

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Highlights

- We model a Herschel-Bulkley fluid flow in varying bottom inclination channels
- The channels are widening and reducing the bottom inclination downstream
- We make experiments to verify the model, measuring the fluid rheometry and the front position time series
- Dam-break and constant inflow are reproduced, measuring also the free surface velocity and the current thickness

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