



## **Hydro Mechanic Model of interaction between water flow and flexible vegetation**

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The important roll of vegetation into river hydrodynamics and morphology is well accepted and its mechanisms have been identified in a qualitative way in many studies. In this paper we present a new 2D Integrated Hydro Mechanical Model developed to evaluate the flow resistance coefficient taking into account the presence of flexible vegetation. It calculates the vertical velocity profile as function of vegetation geomechanical properties and relates it with an equilibrium force system using the mechanical properties of the vegetation (strain-stress). Several experiments have been run at the laboratory, including natural and artificial plants to calibrate the numerical model.