Submarine avalanches modelling with two coordinates multilayer system.

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Abstract:

Submarine avalanches models usually have to choose between two systems of coordinates: horizontal or parallel to the slope or both with a change of coordinates at the interface between fluid and avalanche, but this can limit the range of modeled avalanches profile. We aim to develop a model based on the 2-coordinates systems option but with an interstitial water layer in local coordinates so that the change of coordinates happens at an unmoving water-water interface.

We will present the model derivation from Euler's equation, the layer-averaging and preliminary simulation results, as well as the expected advantages of this model.

References:

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