



## Deposition of fine sediment in turbulent conditions

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Sediment transport is the responsible for reshaping the stream bed. There are multiple studies on the bedform formation, but data is scarce when the bed originates from a sediment-laden flow and the sediment is in the very fine range. The aim of this work is to evaluate the suspended sediment concentration at which deposition starts to occur. Specifically, non-cohesive fine sediment made of silica particles ( $D_{50} = 0.004$  mm,  $\sigma_g = 2.45$ ) is used to assess the transport of sediment in the wash-load size range. The second objective arises as a consequence of studying the first one: to analyse the relation between the flow properties and a developed bed composed of very fine sediment.

The experiments are performed in a 15 m-long 0.37 m-wide flume (SIMGEO UB-CSIC, Faculty of Geology, University of Barcelona). Water and sediment are recirculated. The clean smooth metal surface of the flume is set to be the initial condition in each run. Hydraulic conditions in the flume are quasi-uniform. Flow parameters are controlled by the use of an ADV Vectrino, a current meter, a thermometer and siphons to collect samples of the suspension.

Preliminary results show that very fine sediment transported in suspension settles on the bed as function of the elapsed time and the suspended sediment concentration. Bedform development may show the typical stages unless for the first partial-covered bed stage in which solitary lunate ripples migrate downstream.