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Experimental study on settling velocity of plastic particles

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The knowledge of the main mechanisms governing the plastic transport from the rivers to the sea is fundamental to develop appropriate measures to reduce the impact of plastics in the fresh and marine water environment.
Settling velocity of plastic is an important parameter affecting the transport mode, such as bed, suspension and floating load, the quantity delivered by the stream and the time needed to be delivered to the sea.
The available experimental measurements of settling velocity of plastic elements are very few and limited to spherical shape particles. With the aim of extending the knowledge of plastic behaviour during deposition processes, a set of laboratory experiments on settling velocity of microplastics in stilling water have been carried out.
In the current study a preliminary analysis of the laboratory data is presented by expressing the main variables in a non dimensional form, taking into account three main significative variables which characterize the plastic particles: shape, size and density.