P40. EXPERIMENTING ON SETTLING VELOCITIES OF NEGATIVELY BUOYANT MICROPLASTICS

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Presence of small plastic particles (< 5 mm), defined as microplastics, in the ocean and, especially, in coastal areas became evident in the last decade. From physical point of view, this fact indicates emergence of a new type of particles in the ocean. In contrast to the abundance of studies concerning sources, actual distribution and ecological effects of those particles, there are almost no detailed descriptions of physical mechanisms determining their distribution and behavior in the water column. Settling velocities of microplastics were measured in a series of experiments conducted in a 1-meter high glass tank filled with distilled water, in accordance with the typical methodology used in sedimentology. At first approximation, we supposed that the semi-empirical formulations developed for the natural sediments would be applicable to the microplastics. Results of preliminary experiments on microplastics of simple shapes justified this hypothesis. The majority of the implemented equations of settling velocity fitted well with the experimental data. Next step would be to test these formulations on the marine microplastic particles with greater variability in shapes.

The research is supported by the Russian Science Foundation, project number 15-17-10020.