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# 76th Annual Meeting of the Division of Fluid Dynamics

## Sunday–Tuesday, November 19–21, 2023; Washington, DC

## Session A34: Micro/Nano scale Flows: Interfaces, Particles, and Channels I

8:00 AM–9:57 AM, Sunday, November 19, 2023
Room: 201

Chair: Nicolas Hadjiconstantinou, MIT

## Abstract: A34.00009 : Sedimentation of V-shaped micro-objects with mass anisotropy under gravity*

9:44 AM–9:57 AM

← *Abstract*

**Presenter:**
Piotr Zdybel
(Institute of Fundamental Technological Research PAS)

**Authors:**
Piotr Zdybel
(Institute of Fundamental Technological Research PAS)

Maria L Ekiel-Jeżewska
(Institute of Fundamental Technological Research PAS)

We will present a preliminary study of the sedimentation of V-shaped rigid micro-objects in viscous fluid. These objects are composed of solid spherical particles with different masses touching each other. Previous studies [M. L. Ekiel-Jeżewska, E. Wajnryb; *J. Phys. Condens. Matter* 21 (2009) 204102] shows that V-shaped objects with mass isotropy orient toward a stable stationary configuration. On the contrary, straight chains of spheres and unilateral triangular structures do not change their orientation with time. Besides, the introduction of mass anisotropy leads to a stable stationary configuration of a rigid dumbbell in a very viscous medium, as was recently shown by [K. Nissanka et al.; *J. Fluid Mech.* 956 (2023) A28]. We will determine numerically the dynamics of the V-shaped chain of the beads sedimenting in a Stokes flow depending on the sizes and densities of the beads.

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