

Deformation of bubbles in turbulence

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Date: Wednesday, March 22, 2023 15:00-16:00

Venue: Faculty of Engineering Bldg. 2, Room 31A

Abstract:

Mixing two immiscible fluids (gas-liquid or liquid-liquid) in turbulence produces polydispersed droplets or bubbles that can freely deform, break, and coalesce while interacting with the surrounding turbulence. These processes are fundamentally important and practically relevant to multiple fields, including chemical emulsion, food science, nuclear thermal hydraulics, two-phase heat transfer, and ocean and atmospheric science. In particular, deformation of bubbles is considered crucial to modulating effective lift and drag forces, reducing turbulent drag, and enhancing heat and mass transfer. In this presentation, I will discuss fundamental aspects of turbulent deformation, including experimental tests of key hypotheses and assumptions used in the classical Kolmogorov-Hinze framework and its limitations.



Registration

<https://forms.gle/hbVRrmCqvp9UJVg6>

Please register by Mar. 20.