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Study of the properties of oil, particles, and water on particle adsorption dynamics at an oil/water interface using the colloidal probe technique

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1. Highlights

- Force curves were obtained by AFM for particle adsorption at oil/water interface.
- Repulsion, attraction, and detachment forces were obtained.
- Particle surface properties mainly control film drainage which can be hindered by increasing oil viscosity.
- Particle detachment force is related to interfacial tension and particle wettability.
- Characteristic time of particle insertion into interface is many times the drop dispersion time.

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