Beitrag ID: **11** Typ: **Poster**

Dynamic mesoscopic model for two-component compound drops

Montag, 5. Dezember 2022 16:00 (2 Stunden)

We consider a mesoscopic model for two immiscible fluids forming two-layer liquid films or compound drops on a rigid solid substrate. The earlier macroscale description [1,2] is connected to our mesoscopic approach (building on [3]) via consistency conditions. Thereby we relate macroscale and mesoscale versions of the Young and Neumann relations at the liquid 1/ solid/ gas and the liquid 1/ liquid 2/ gas contact lines, respectively. Furthermore, we employ the mesoscale model to investigate selected dewetting and coarsening processes for physically realistic parameters. The steady compound drops emerging from the time simulations are related to bifurcation scenarios determined via macroscale and mesoscale descriptions.

[1] L. Mahadevan, M. Adda-Bedia, and Y. Pomeau. ``Four-phase merging in sessile compound drops''. In: J. F
[2] M. J. Neeson et al. *Compound sessile drops*. In: Soft Matter 8 (2012), pp. 11042*11050. doi: 10.1
[3] A. Pototsky et al. *Morphology changes in the evolution of liquid two-layer films*. In: J. Chem. P
[4] Uwe Thiele et al. *Equilibrium contact angle and adsorption layer properties with surfactants*. In

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Sitzung Einordnung: Poster Session