404d Lateral Drop Adhesion

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Drops contact angle is perhaps the simplest and most common way of characterizing surfaces. Yet, contact angle hysteresis, associated with line energy,1 often obscure the validity of this simple measurement. In this study, we will derive the exact relation between the Young equilibrium contact angle, and the advancing and receding contact angles, and confront the theoretical prediction with experimental results. Line energy is also associated with the drop's lateral adhesion,2 and here too we will present experiments results and confront them with theoretical predictions.

1. R. Tadmor, Langmuir, 20, 7659-7664 (2004). 2. E.B. Dussan and R.T.P. Chow, J. Fluid Mech., 137, 1-29 (1983).