RECEDING CONTA CT ANGLE IN THE SITUATION FO COMPLETE WETTING

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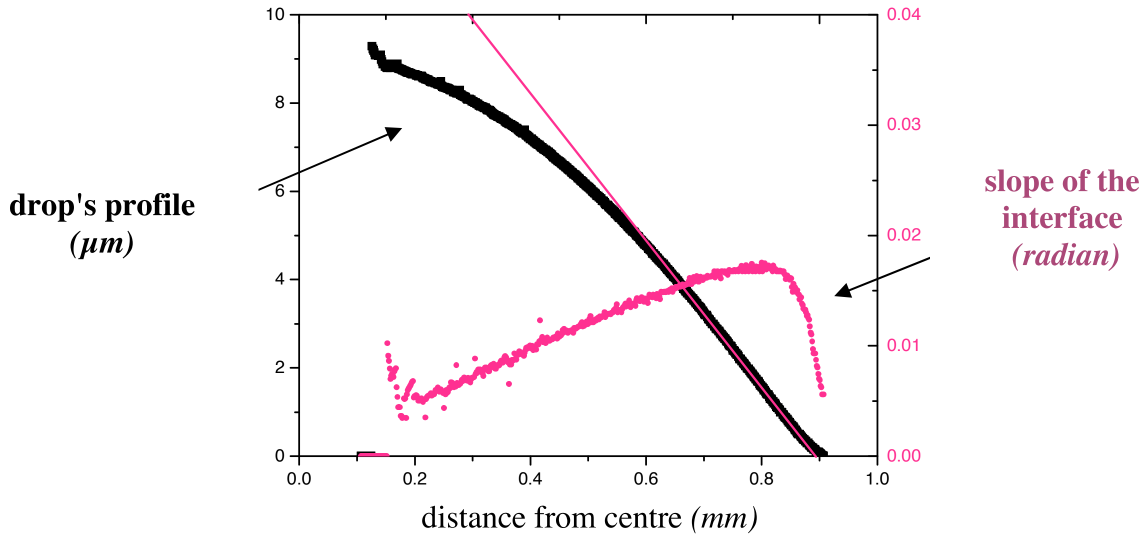
An evaporating droplet in the situation of complete wetting exhibits the interesting feature that is : the contact line recedes with a non-zero contact angle. This happens as soon as the loss of volume due to evaporation compensates the tendency of the liquid for spreading.

What defines the value of the contact angle and more precisely : what governs the shape of the droplet at the contact line is still a partially unanswered question. The problem is manifold as both spreading and evaporation are to be treated in the vicinity of the contact line where macroscopic pictures usually fail. Recent results provide experimental checks of some assumptions needed in a model describing the moving contact line of a wetting droplet evaporating in an inert atmosphere. Special interest is given, here, to the maximum extension of the droplet *ie* when the contact line starts receding and we are able to define what are the significant physical parameters that rescale the receding contact angle for a given class of liquid. We find a fairly good agreement with theory for very small droplets. However, discrepancy shows up rapidly when the droplet size increases and/or the contact angle decreases and the global trend observed still resist to the interpretation.



Profile reconstructed by interferometry techniques by the end of the drop's life.