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Elastocapillary bending of microfibers around liquid droplets

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We examine the elastocapillary deformation of flexible microfibers in contact with liquid droplets. As the size of the contacting droplet increases, the fiber is observed to bend more in response. Finally, at a critical droplet size, proportional to the bending elastocapillary length, the fiber spontaneously winds itself around the droplet. Simple theoretical models yield predictions which are in agreement with the experimental findings.

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