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Normal elasticity of liquid bridge by atomic force microscope[1]
BONGSU KIM, WONHO JHE, Seoul National University, CENTER FOR NANO-LIQUID TEAM — The quartz tuning-fork based atomic force microscope (QTF-AFM) has previousely been established as a suitable measurement technique for investigating liquid bridges. By operating a QTF-AFM in the non-contact tapping mode, we are able to measure the normal elasticity of liquid bridges that are formed via capillary condensation or that result from an adsorbed liquid layer. Elasticity, a property typically associated with solids, is studied here for the case of the nano-scale water bridge. We present results that add to our understanding of the origin of the elasticity in nano liquid bridges.

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