

Materials List for:

Measuring the Interaction Force Between a Droplet and a Super-hydrophobic Substrate by the Optical Lever Method

Shuya Zhuang¹, Meirong Zhao¹, Zhiyi Wang¹, Lele Zhang¹, Yinguo Huang¹, Yelong Zheng¹

¹State Key Laboratory of Precision Measuring Technology and Instruments, Tianjin University

Correspondence to: Yelong Zheng at zhengyelongby@163.com

URL: <https://www.jove.com/video/59539>

DOI: [doi:10.3791/59539](https://doi.org/10.3791/59539)

Materials

Name	Company	Catalog Number	Comments
Camera	Shenzhen Andonstar Tech Co., Ltd	digital microscope A1	Frame rate: 30 frames/sec; Focal distance: 5 mm - 30 mm
Capacitive bridge	Andeen-Hagerling	AH2550A	The capacitive bridge is used to measure the capacitance between the cantilever and the plate electrode.
Data acquisition device	National Instruments	USB-4431	The data acquisition device is used to read the output voltage data.
DC power supply	Keithley	2410	Voltage range: $\pm 5 \mu\text{V}$; Accuracy: 0.012%
Grid	Electron Microscopy China	AGH100, AGH150, AGH300	The grid fractions of AGH100, AGH150 and AGH300 are 46.18%, 51.39% and 58.79% respectively
Laser	Shenzhen Infrared Laser Technology Co., Ltd.	HW650AD100-10BD	Laser wavelength: 650 nm
Nanoparticle	Rust-Oleum	274232	NeverWet Multi-Surface Liquid Repelling Treatment is a revolutionary super hydrophobic coating.
Nanopositioning z-stage	Physik Instrumente	P622.ZCD	Travel ranges 50 μm to 250 μm (350 μm open loop); Resolution to 0.1 nm; Linearity error only 0.02%
Position sensitive detector	Hamamatsu Photonics K.K.	S1880	The two-dimensional PSD is used to translate optical signals into electrical signals.