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High-speed microdroplet impact on smooth solid surfaces CLAAS WILLEM VISSER, YOSHIYUKI TAGAWA, NIKOLAI OUDALOV, CHAO SUN, DETLEF LOHSE, University of Twente — We present experimental observations of high-speed microdroplet impact on smooth solid surfaces (roughness $R_{RMS} \approx$ 1nm), using high-speed imaging up to 1 million frames per second. The ranges of the droplet size and velocity are $\mathcal{O}(0.01)$ - $\mathcal{O}(0.1)$ mm and $\mathcal{O}(1)$- $\mathcal{O}(100)$ m/s, respectively. Droplet generation is achieved by break-up of a high-velocity microjet. The final droplet radius after impact and the development of droplet radius in time are investigated for impact of the first droplet of the droplet train. The results are compared with models available in literature.

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