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Laser-produced microjets SIGURDUR THORODDSEN, King Abdullah University of Science and Technology, Saudi Arabia, K. TAKEHARA, T.G. ETOH, Kinki University, Osaka, Japan, C.-D. OHL, Nanyang Technological University, Singapore — We use ultra-high-speed imaging to characterize the formation of a micro-jet when a laser-produced shock hits a bubble sitting under a free surface. The bubble is formed inside a sessile drop, sitting on a glass slide and buoyancy drives it to its top. The jetting is forced by an Nd:YAG-laser pulse of about 30 mJ, focused by a microscope objective sitting under the glass plate. The jet is initiated when the shock hits the curved bottom of the bubble. It emerges out of a bottom crown and has a very regular shape. For water the jets are a few microns in size and can emerge at over 200 m/s. In intermediate viscosity liquids the jetting can be even faster and can emerge at over 500 m/s, depending on the depth of the laser focus. Jets can even be produced in pure glycerin where they emerge at about 100 m/s.

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