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Energy storage by droplet/bubble capillary force ZHIFENG ZHANG, The Pennsylvania State University, XIAOLONG ZHANG, Washington State University, TONY JUN HUANG, The Pennsylvania State University, XIAOLIN CHEN, Washington State University — In present research, a capillary energy storage device is designed by a channel-expansion chamber structure. In the proposed model, the energy is stored in the form of compressed droplet/ bubble in a smaller channel with the release of energy in the form of capillary driven flow. The power output curve for this device is provided by numerical studies. Trials are also engaged to design a continuous output supply by considering the power output and the viscous loss. This device can potentially be used in both micro- and nano- scale energy storage.

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