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Hysteresis in the shape of a droplet under supergravity MINERVA VARGAS, Instituto Tecnologico de Zacatepec, GUILLERMO HERNANDEZ-CRUZ, EDUARDO RAMOS, Universidad Nacional Autonoma de Mexico — Using a centrifuge, we have made observations of the shape of a sessile water droplet with a volume of 0.1 ml, as the total body force (gravity plus centrifugal) on it is increased from 1g to up to 14g during 20 min in a stepwise fashion, and then decreased back to 1g in 90 s. At 1 g, the drop acquires the shape of an spherical cap and we observed that it flattens as the total acceleration gets larger and the capillary length gets smaller. The drop retains its flattened shape for few seconds even when the force is reduced to 10 g, indicating that process is hysteretic. We offer plausible interpretation of our observations in terms of the dominant physical effects.

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