

# The many faces of a Leidenfrost droplet

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Snapshots from a high-speed video showing the self-organized, star-shaped oscillations of  $\text{H}_2\text{O}$  Leidenfrost droplets. The droplets levitate on a vapor cushion above a hot bowl-shaped surface. The star-shaped patterns result from a parametric coupling of axisymmetric and non-axisymmetric vibrational modes. This is confirmed by measurements of the pressure beneath the droplets, which varies at twice the frequency of the star oscillation. Curiously, the wavelength and frequency of the oscillations are independent of the droplet size.