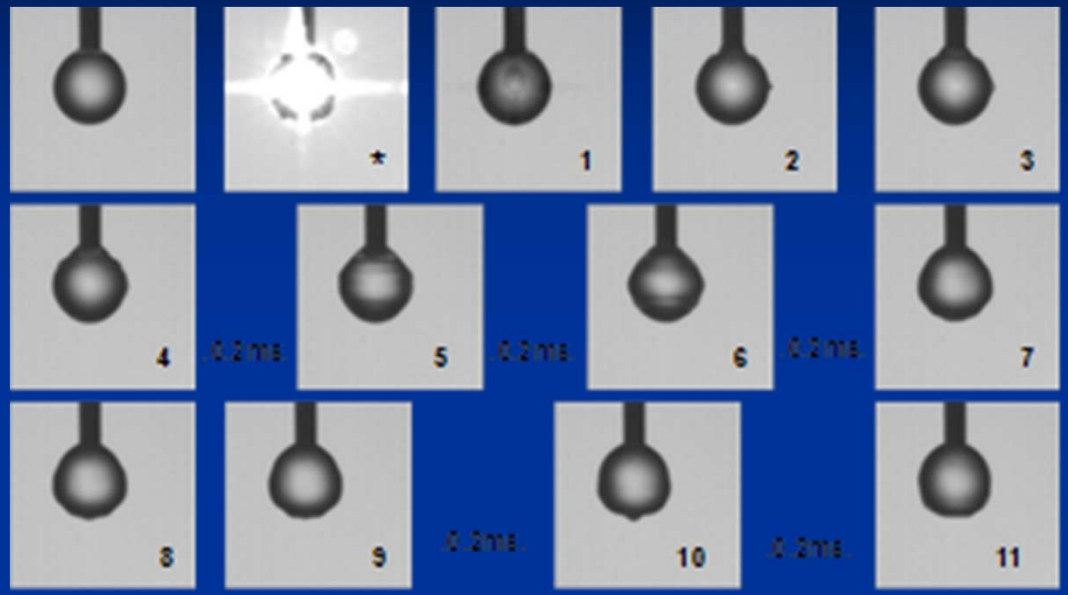
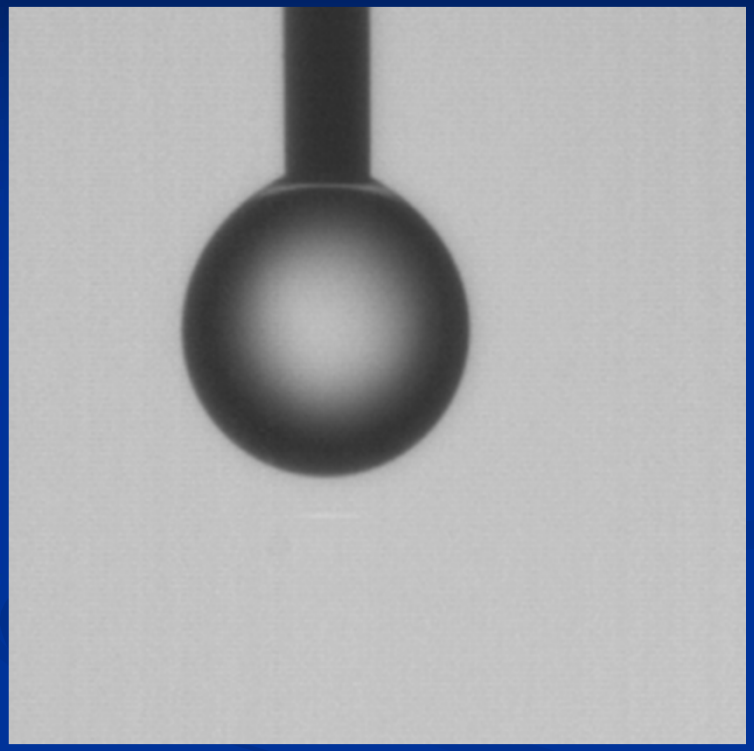
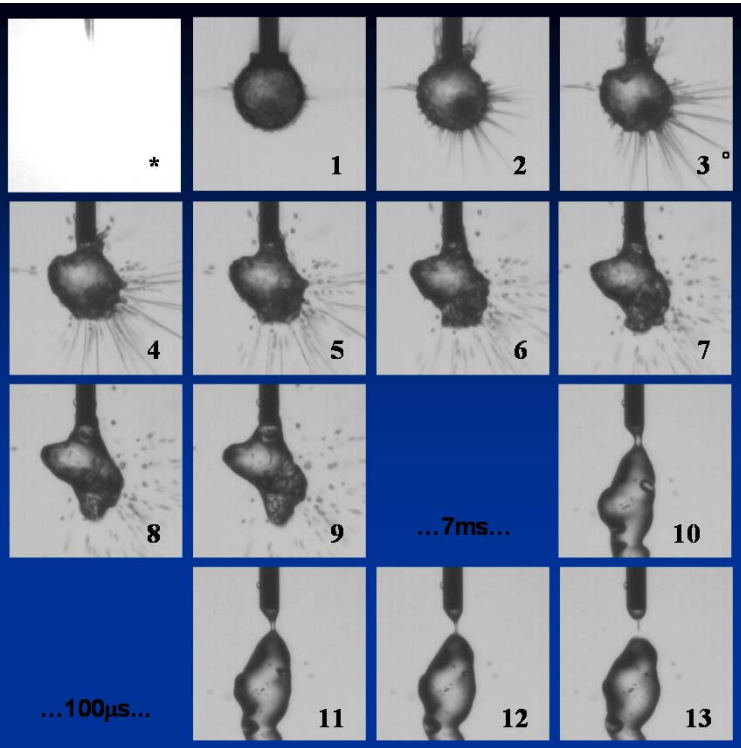
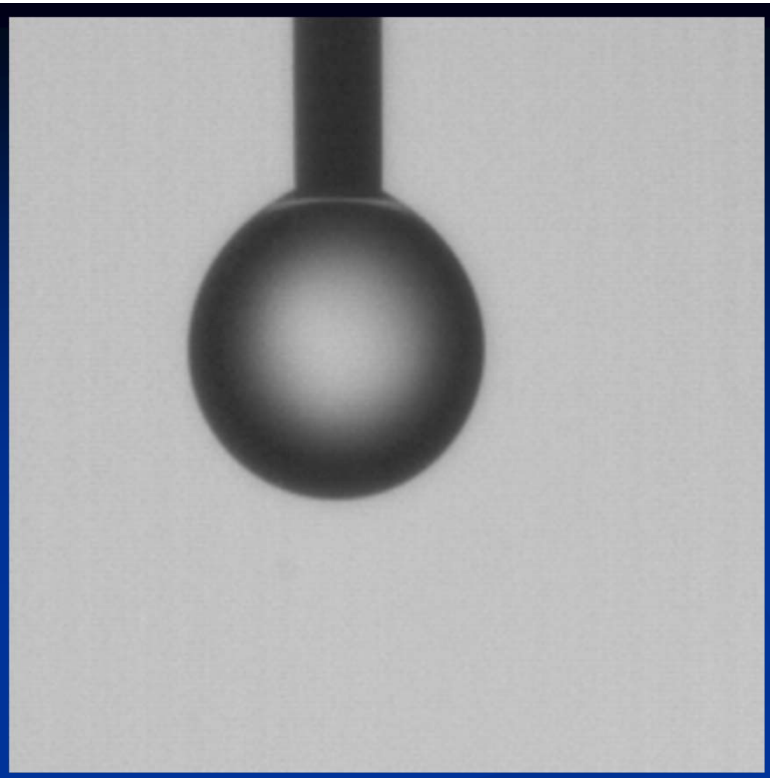
Interaction of the laser beam sent in the equatorial plane of the droplet and focused in its geometrical centre





Droplet volume 3µl; E_2=0.4mJ. λ = 532 nm
Recording speed: 10kfr/sec.
The time intervals 0.2ms between some pictures indicate that frames were skipped .





The laser beam sent in the equatorial plane and focused in its centre.
Droplet volume 3µl; E_4 = 1mJ.

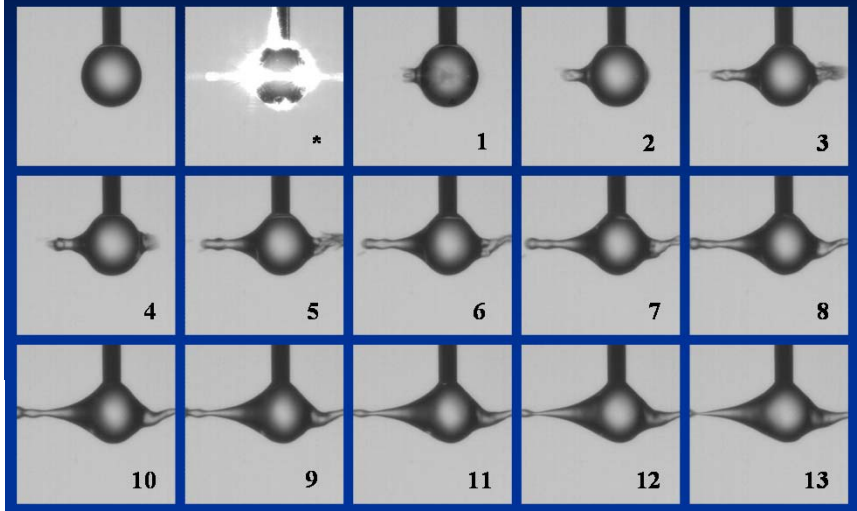
The inhomogeneities produce stimulated Brillouin scattering (SBS) and stimulated Rayleigh scattering induced by electrostriction. The spontaneous Brillouin and Rayleigh scattering are not dominant. The threshold beam power to produce SBS:

$$P_{th} = (G_{th} \cdot \lambda)/2g$$

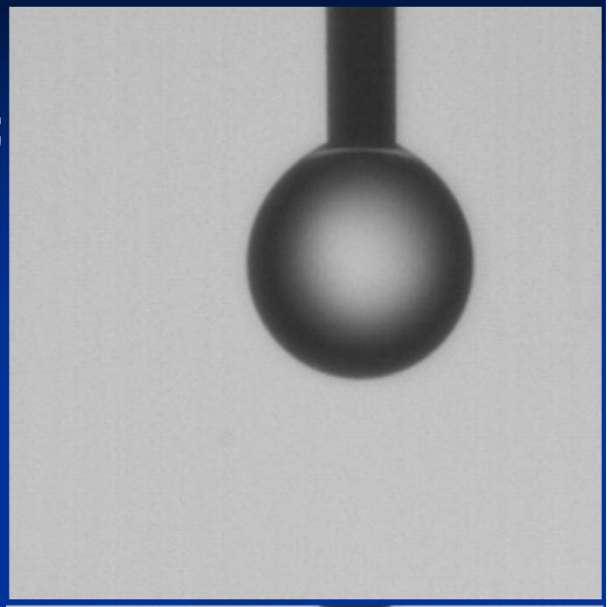
G_{th} = 25, gain parameter at threshold, λ = 532 nm and the SBS gain factor g = 0.048m/GW.

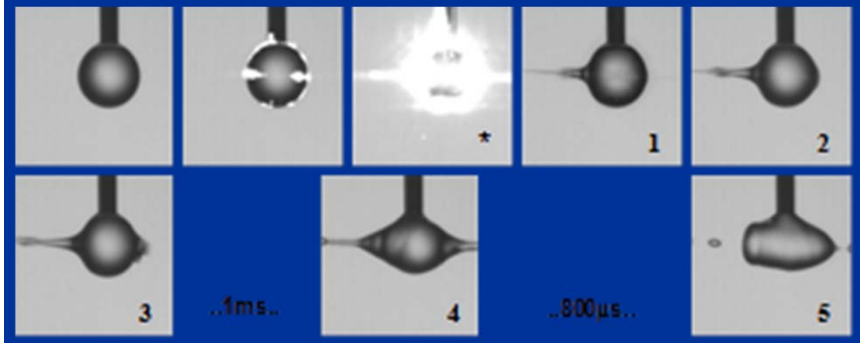
P_{th} = 13.85KW < beam power at 1mJ.

Interaction of the laser beam incident on the droplet in the equatorial plane, on front surface

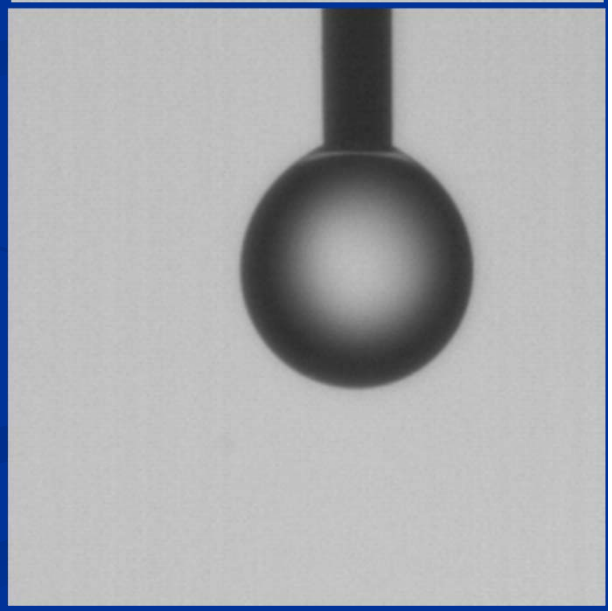


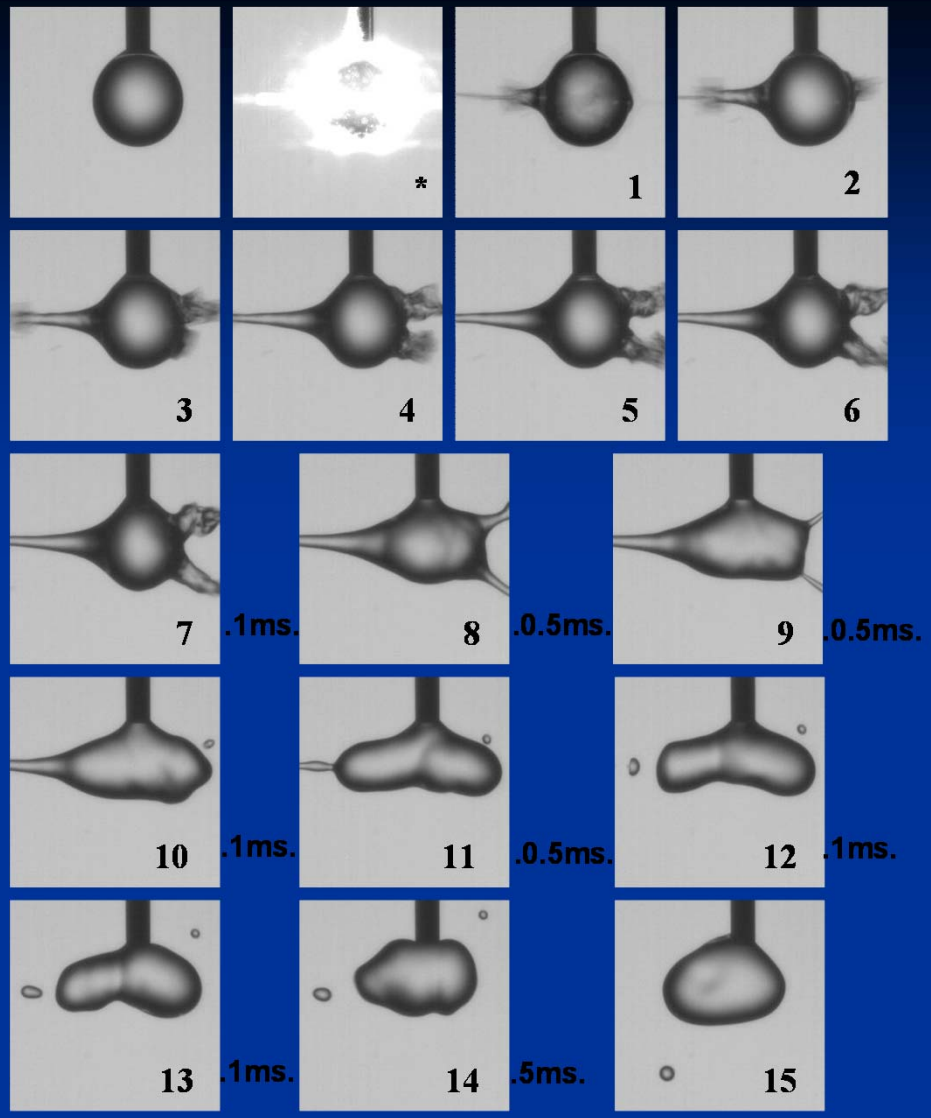
Droplet volume 3µl;
E_1= 0.25mJ

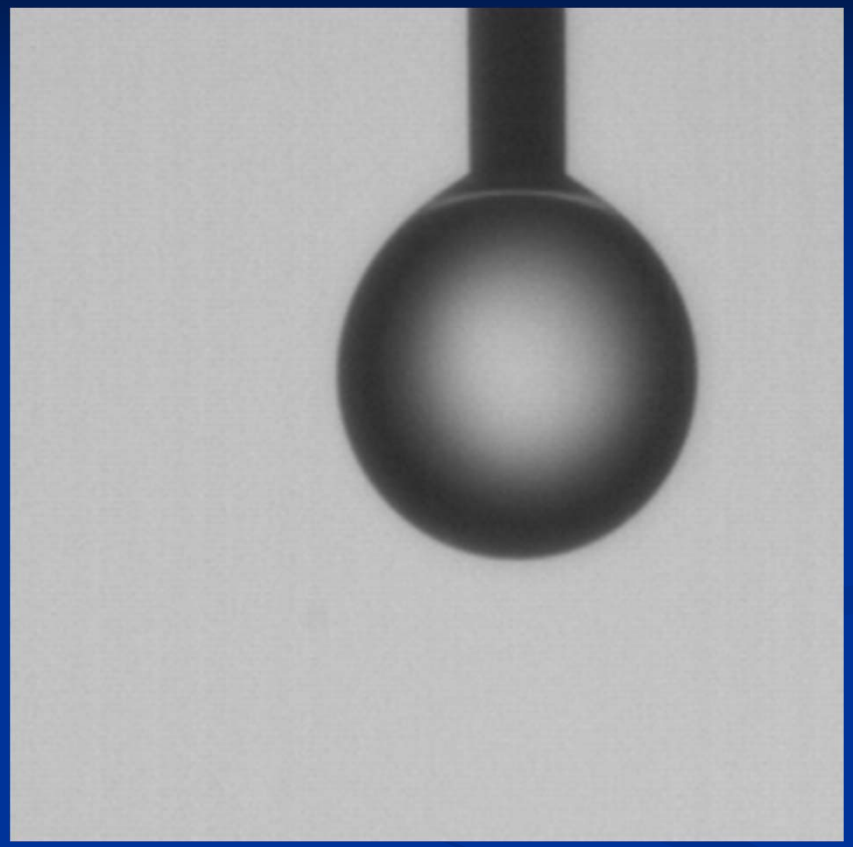




Droplet volume 3µl;
E_4= 1mJ

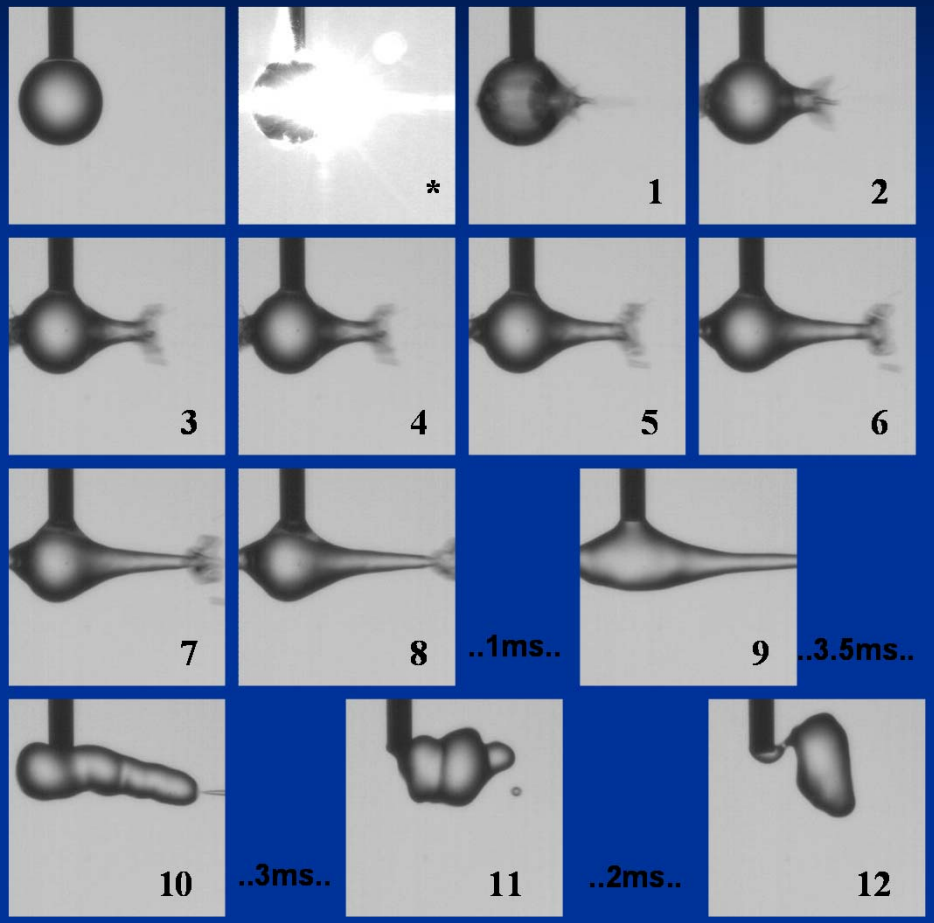


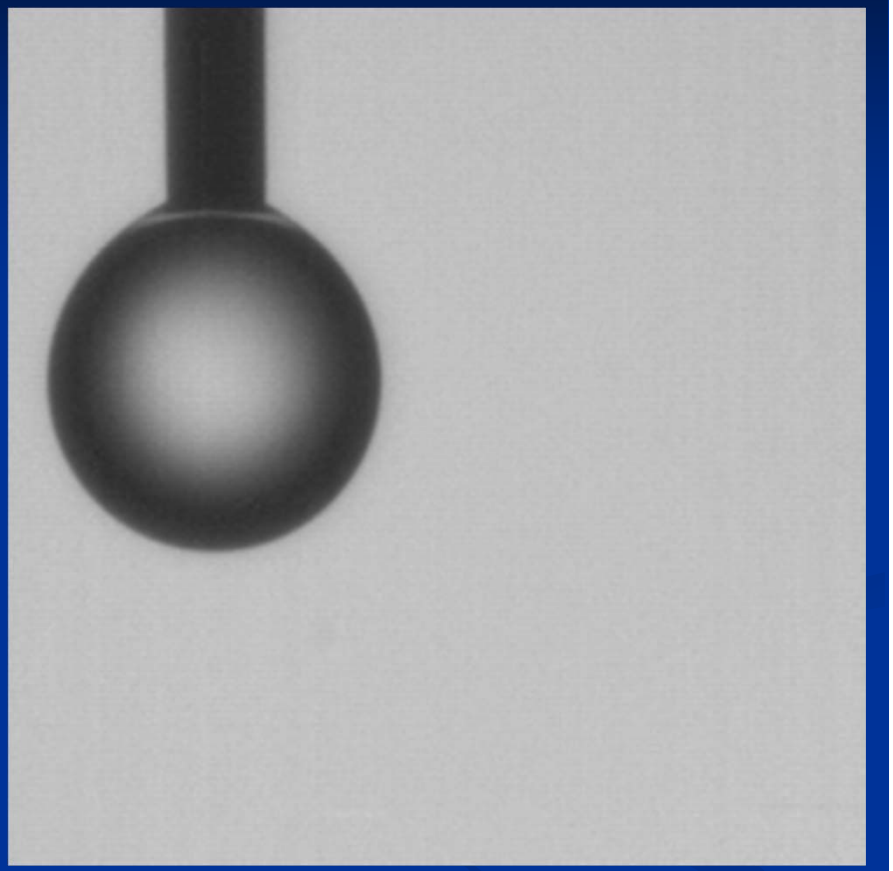




Droplet volume 4µl; E_2= 0.4mJ.

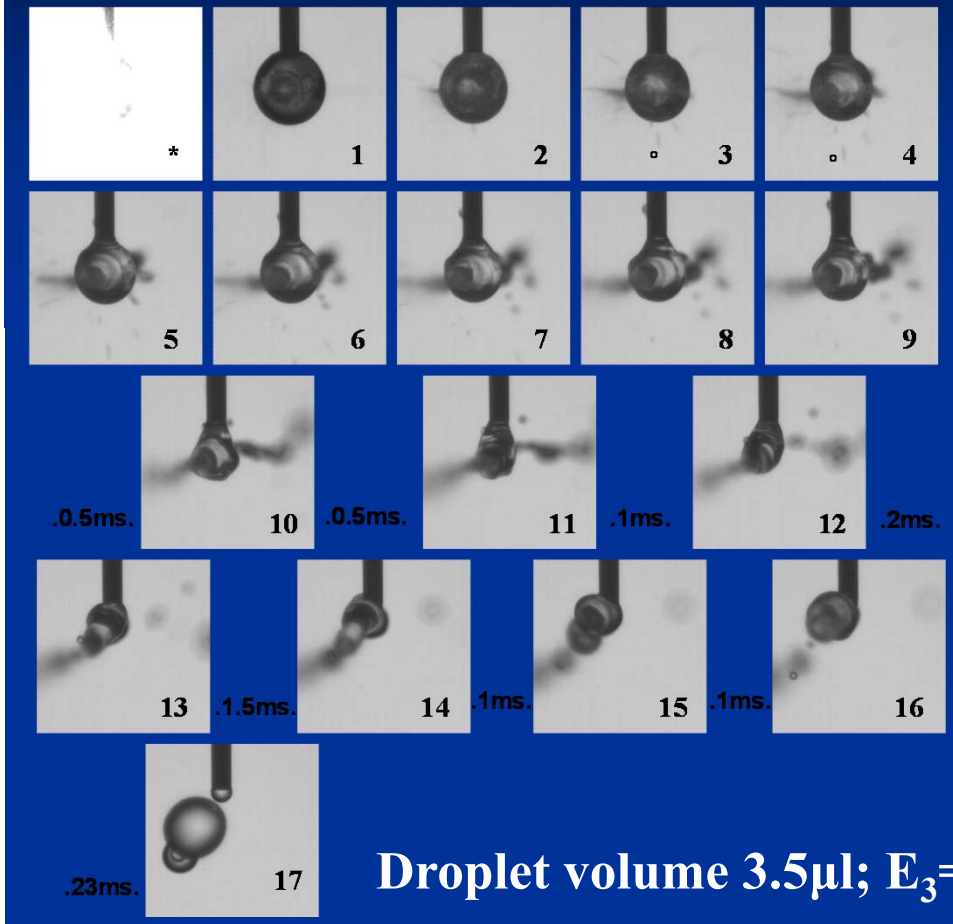
Laser beam incident on the droplet in the equatorial plane and focused on its back face

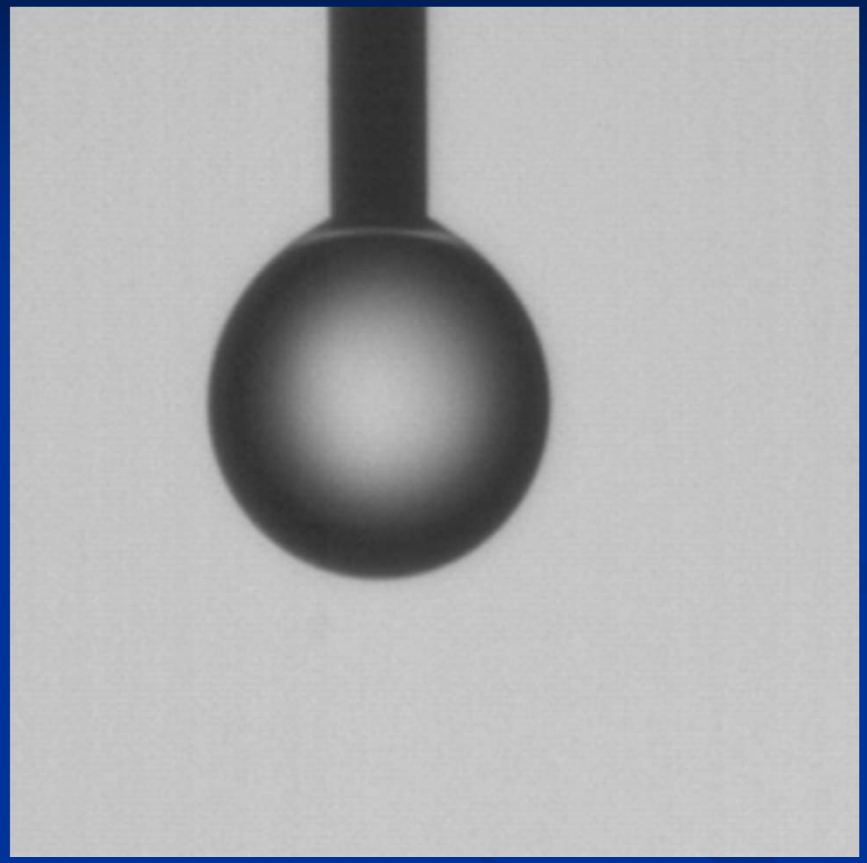




Droplet volume 3µl; E_2= 0.4mJ.

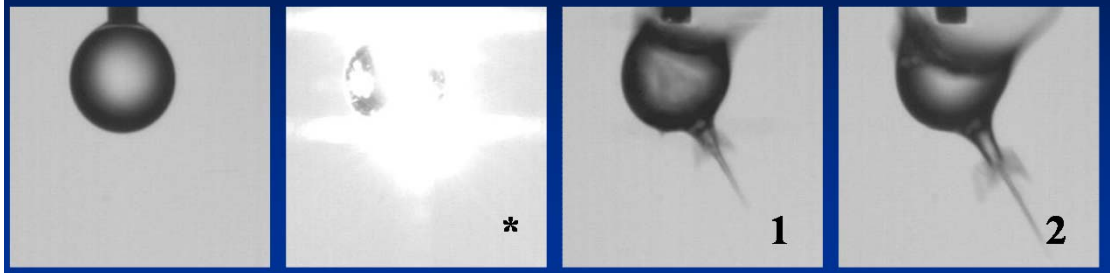
Laser beam incident on the droplet in the equatorial plane, on the lateral face of it, located in front of the camera

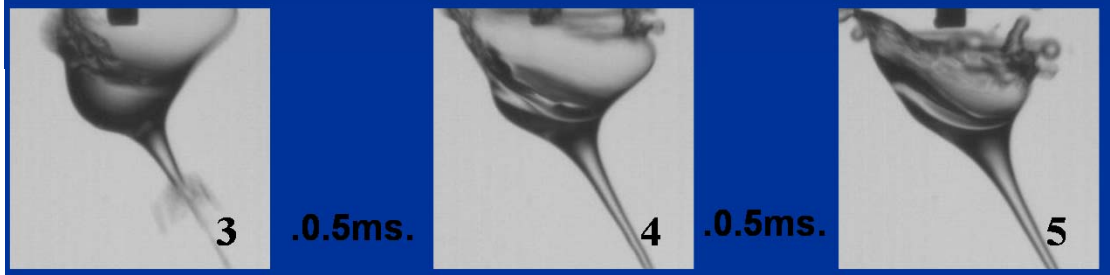


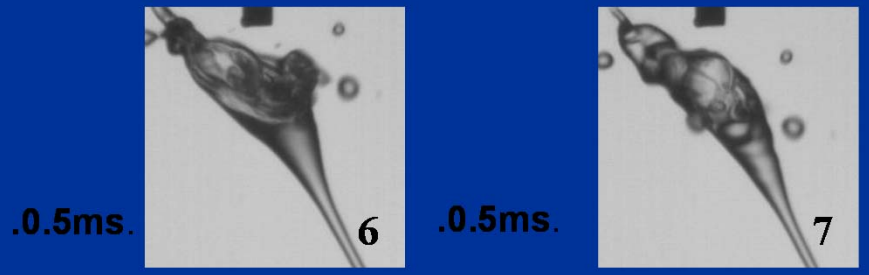


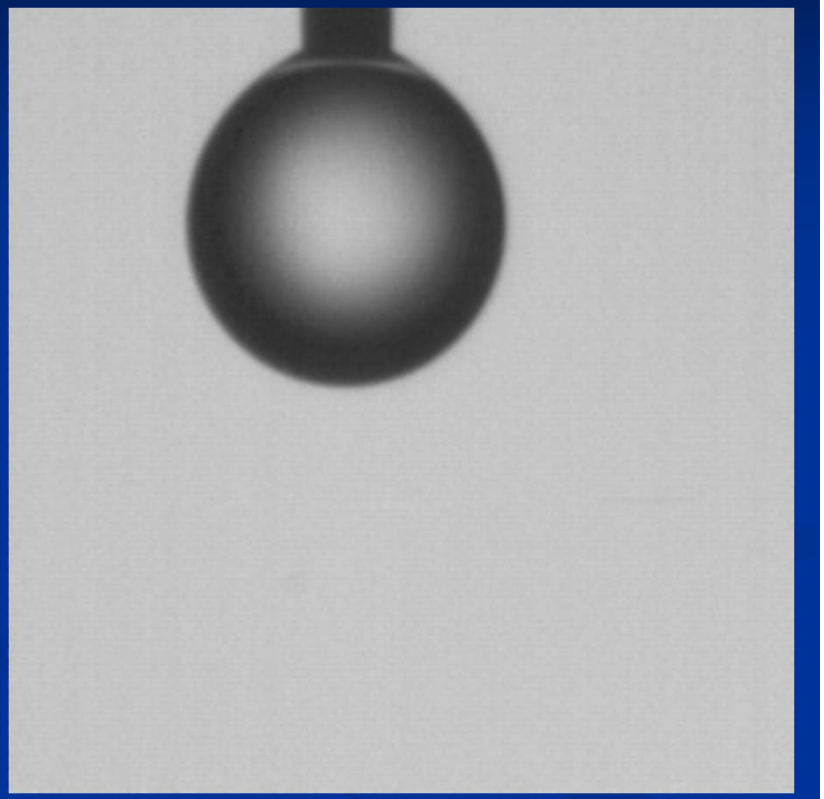
Droplet volume 3.5µl; E_3= 0.7mJ.

Laser beam interaction with the droplet, when sent horizontally, at the South Pole of it







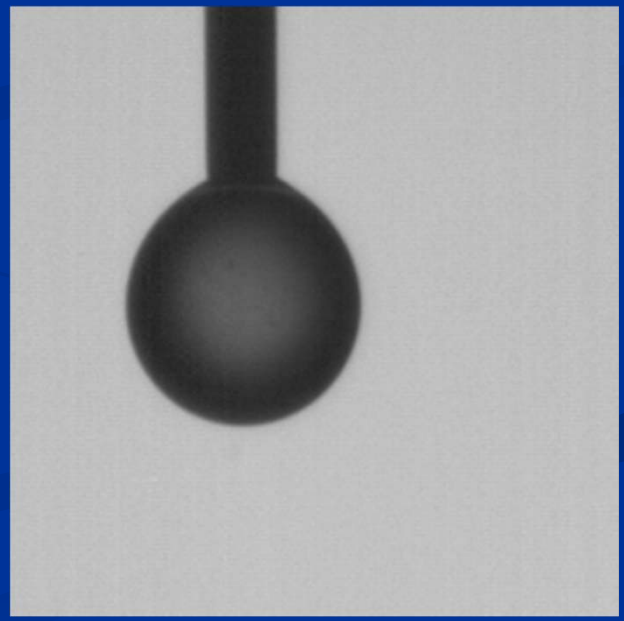


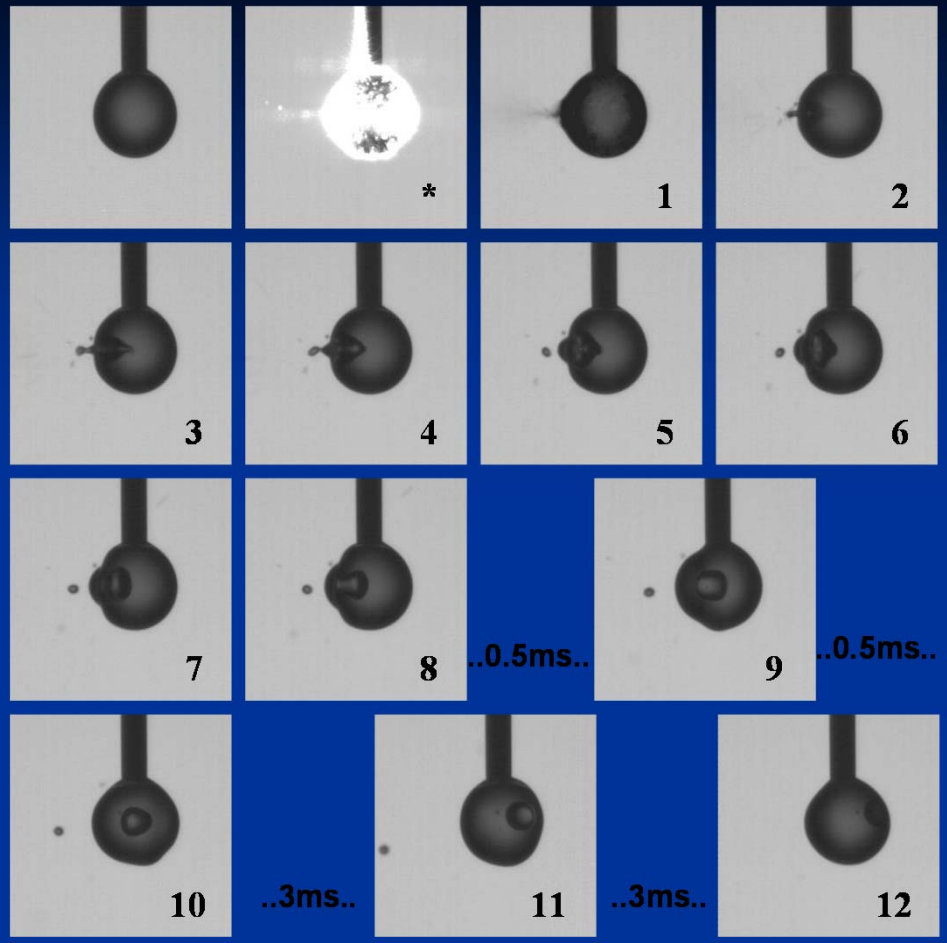
Droplet volume 3.5µl; E_3 =0.7mJ.

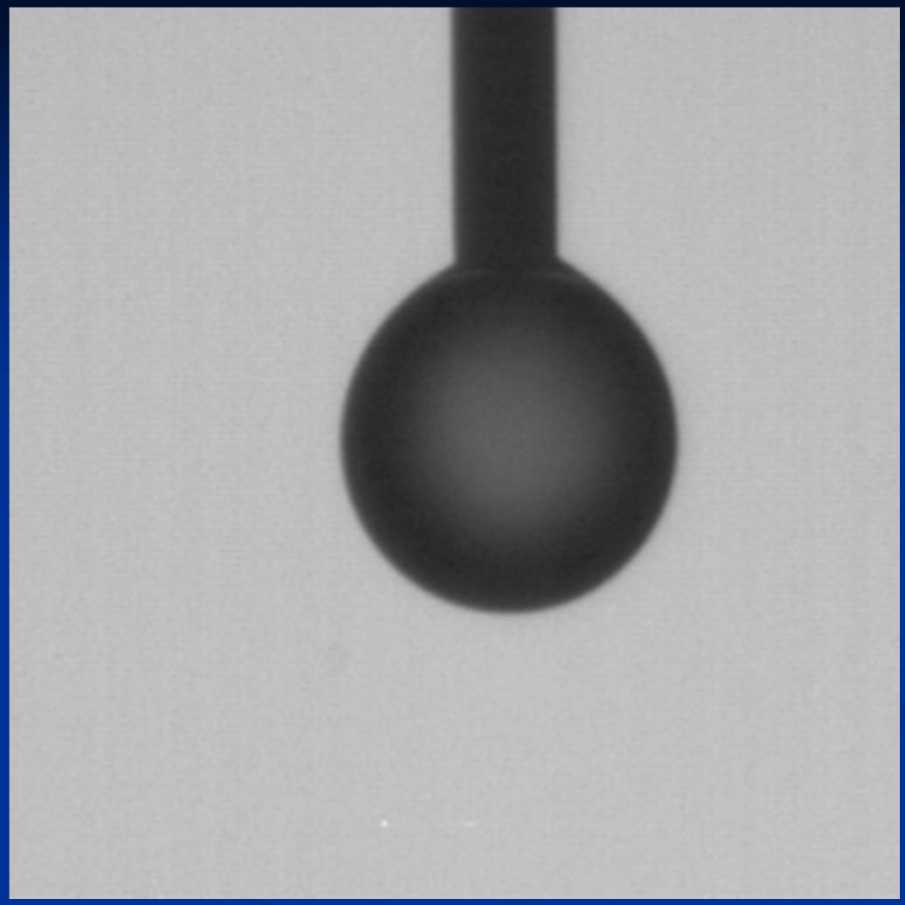
Resonant interaction

R6G solutions in distilled water at 10^{-3}M concentration

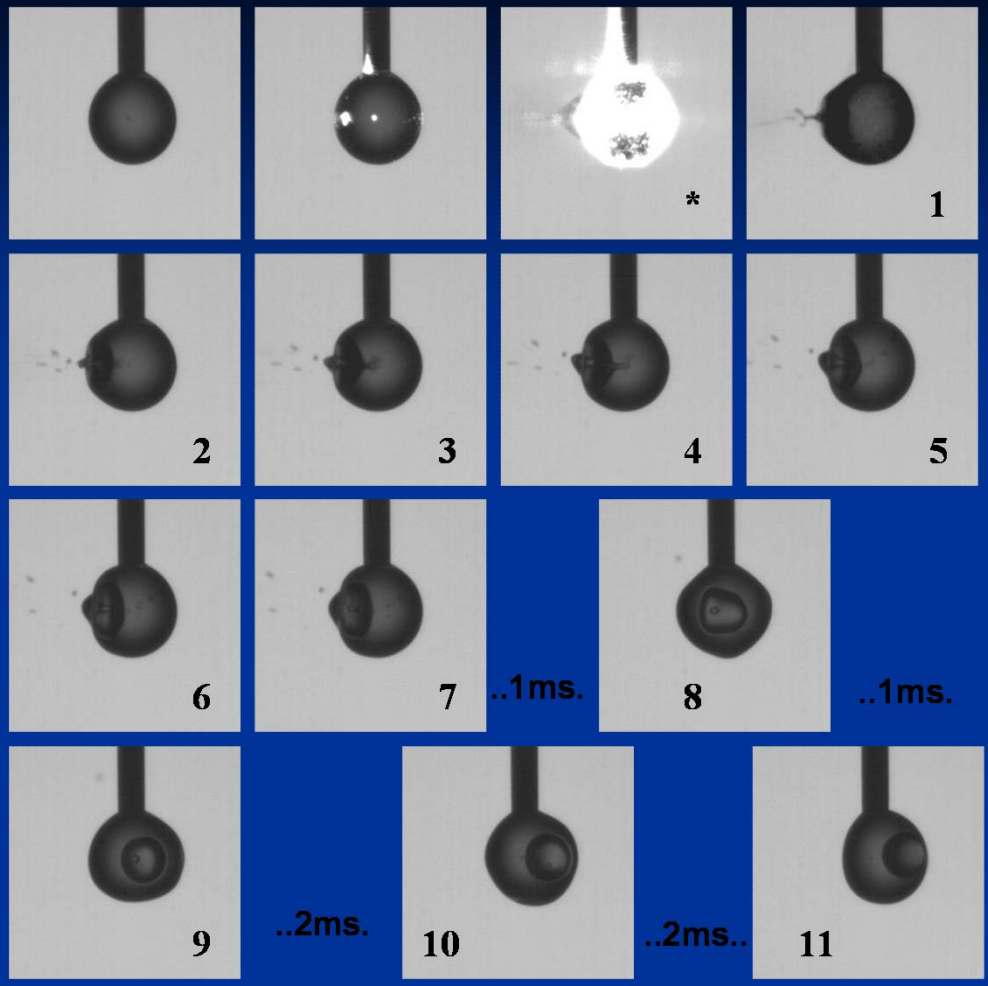
Effects produced at resonant interaction on the droplet containing R6G at 10^{-3}M in distilled water by the laser beam sent in its equatorial plane and focused in its centre . E_1 = 0.25mJ.

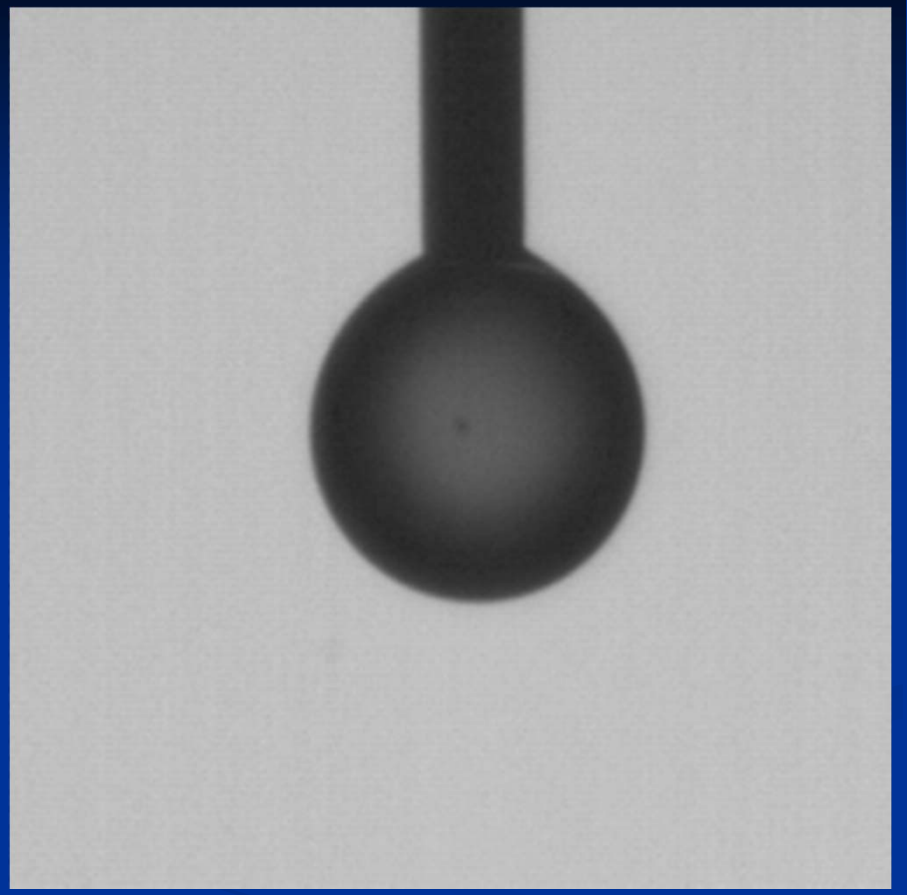






Effects at resonant interaction on the droplet containing R6G at 10^{-3}M in distilled water by the laser beam sent in the droplet's equatorial plane focused on its front surface . E_3 =0.7mJ.





Effects produced on the droplet containing R6G at 10^{-3}M in distilled water by the laser beam sent in the equatorial plane and focused on the front surface of the droplet. E_4 =1mJ.