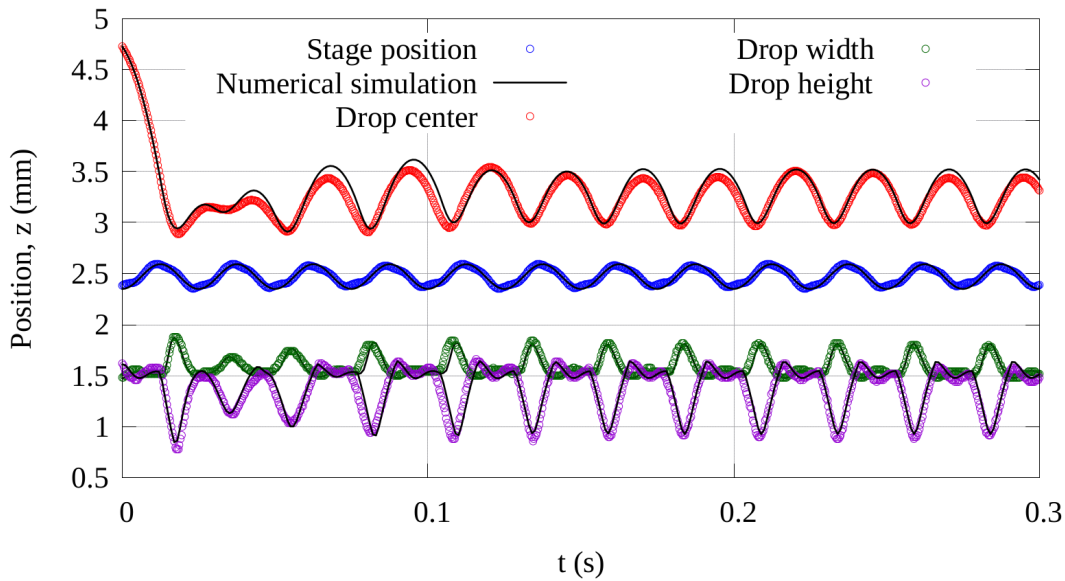
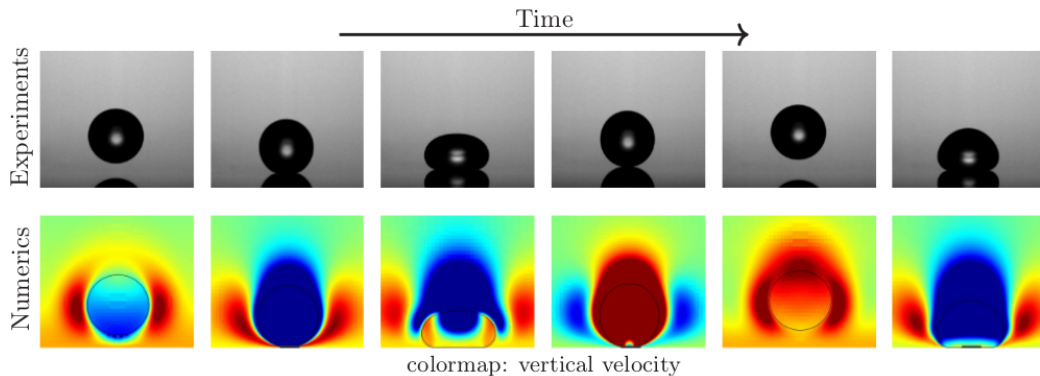


Drops bouncing on a vibrating surface

27^e Rencontre du Non-Linéaire



¹Laboratory of Fluid Mechanics and Instabilities

²Engineering Mechanics of Soft Interfaces

Ecole Polytechnique Fédérale de Lausanne

Reduced order model

- ODE for the drop center Z with a Heaviside function indicating that the surface acts on the drop only when 'close-to-contact' [3]

$$\frac{d^2 Z}{d\tau^2} + H(-Z) \left(D \frac{dZ}{d\tau} + CZ \right) = -Bo^*(\tau)$$

with Bo^* the effective Bond number

$$Bo^*(\tau) = Bo(1 + \Gamma \sin \Omega \tau)$$

- The coefficients D , C depend on the contact time τ_c and the coefficient of restitution C_r

