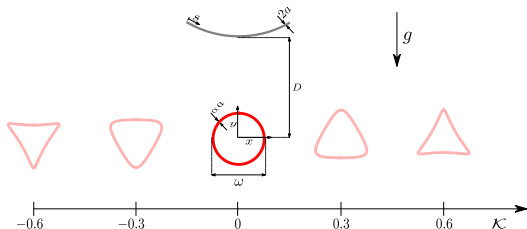


Deformation of a flexible fiber settling against obstacles in a viscous fluid

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- Riemann preserving-area map

$$\mathcal{F}(z) = \mathcal{X}z + \frac{y}{z} + \frac{\mathcal{K}}{\sqrt{2}z^2}$$

$$A = \pi (\mathcal{X}^2 - y^2 - \mathcal{K}^2)$$

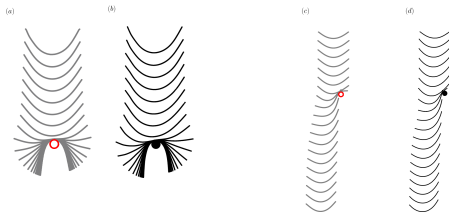
- Non-dimensional numbers

$$Be = \frac{WL^3}{EI}$$

$$\xi = L/\omega$$

Results

- Simulations vs Experiments



Trapping or Gliding events can occur.

- Lateral shift

$$\tilde{\delta}x = \frac{c_0}{2CBe} \left(\frac{\pi}{2} - \theta(0) \right)$$

