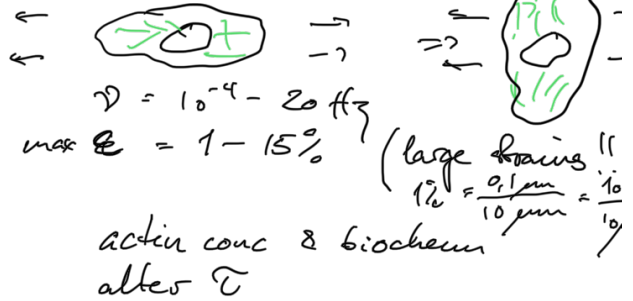
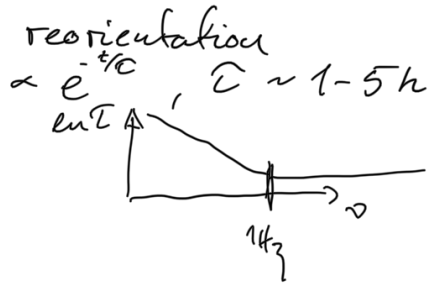


# Physics of adherent cells, part 2

CSK & cell reorientation in response to cyclic stretch



- Model:
- Prestrained fibers
  - Extra strain  $\Rightarrow$  dissociation rate  $k_d$
  - Random direction of new growth rate  $k_a$
  - competition  $k_a \approx k_d \Rightarrow \tau$

$\div$  The desired effect is built into model. Further prediction

+ specific molecular mechanism

- possibly small strains needed?
- actin fibres primary observables

Cell stretching

- $\times$  fluidization of stress fibers
- $\times$  increases rate of CSK remodeling
- $\times$  reduces stiffness

Followed by reassembly!

Mechanotransduction often inhibited when actin-regression contractility is inhibited.