

18.031

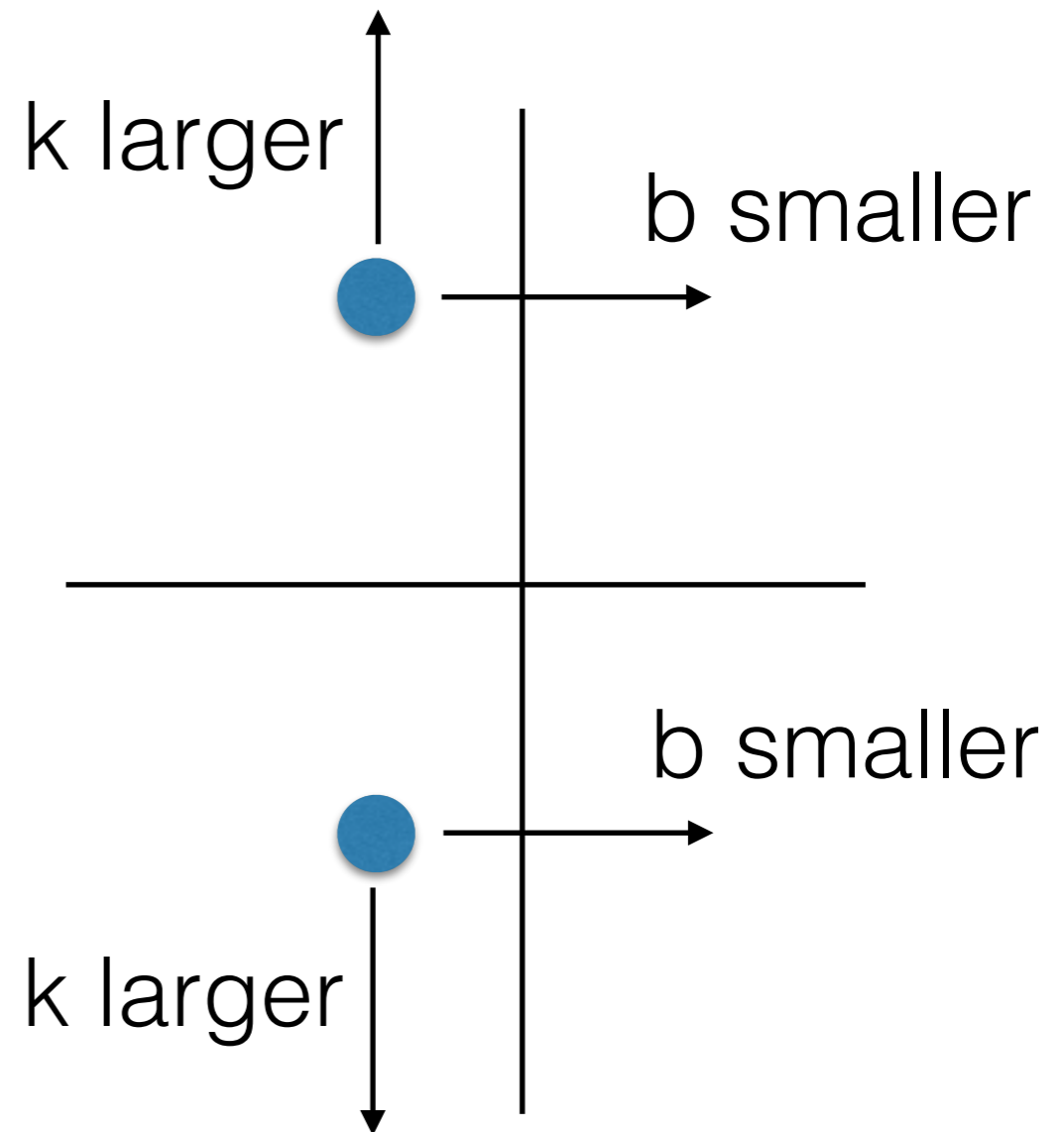
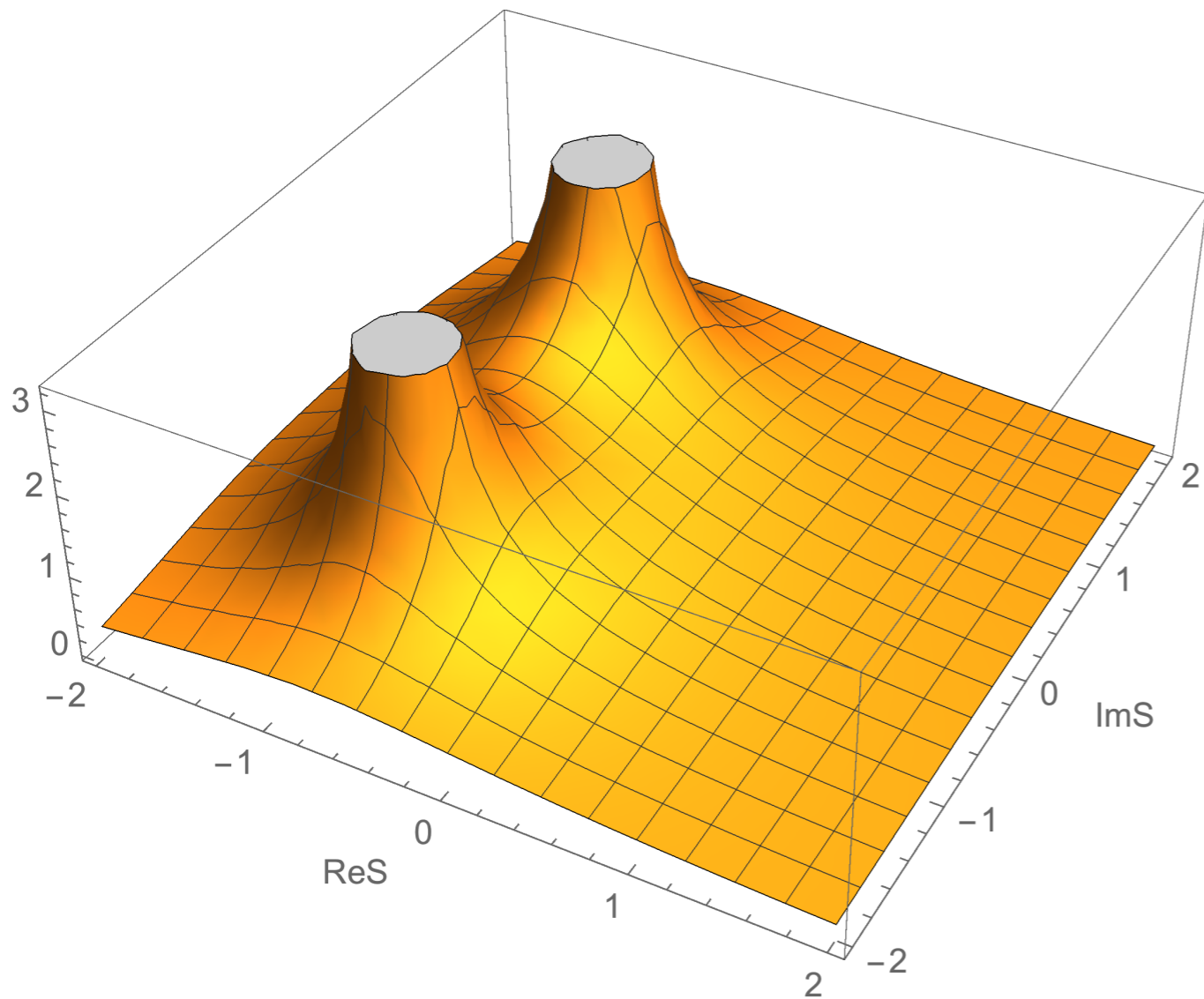
Day 3

# Plan

- UNDERSTAND MASCOT!
- Pole diagram revisited
- Laplace transform
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- ...
- Homework/PSet questions?

# Pole diagrams

$$H(s) = \frac{Q(s)}{P(s)} \longleftrightarrow G(\omega) = \frac{Q(i\omega)}{P(i\omega)}$$



# Pole diagrams and stability

**STABLE  $\Leftrightarrow$  Poles of  $H(s)$  in region  $\text{Re}(s) < 0$**

<http://mathlets.org/mathlets/amplitude-response-pole-diagram/>