

Class questions Nov. 3, 2011

Asked regarding Segall, Chapter 11: Fault Friction

**Questions:**

What is the time frame for strengthening a fault, and what are the mechanisms?

What is the mechanism behind the increase of friction over displacement.

Why would slip occur during stationary contact, i.e. no shear stress applied?

What is  $D_c$  ( $d_c$ )?

What happens if the velocity changes continuously, rather than in a step function?

How do we interpret Figure 11.23 with respect to stability of the system vs. state variable:

What is the state variable?

What do the numerical simulations in 11.4 reveal about earthquake nucleation?

What are the "real-life" implications (ie. on fault planes) of velocity strengthening vs. weakening?