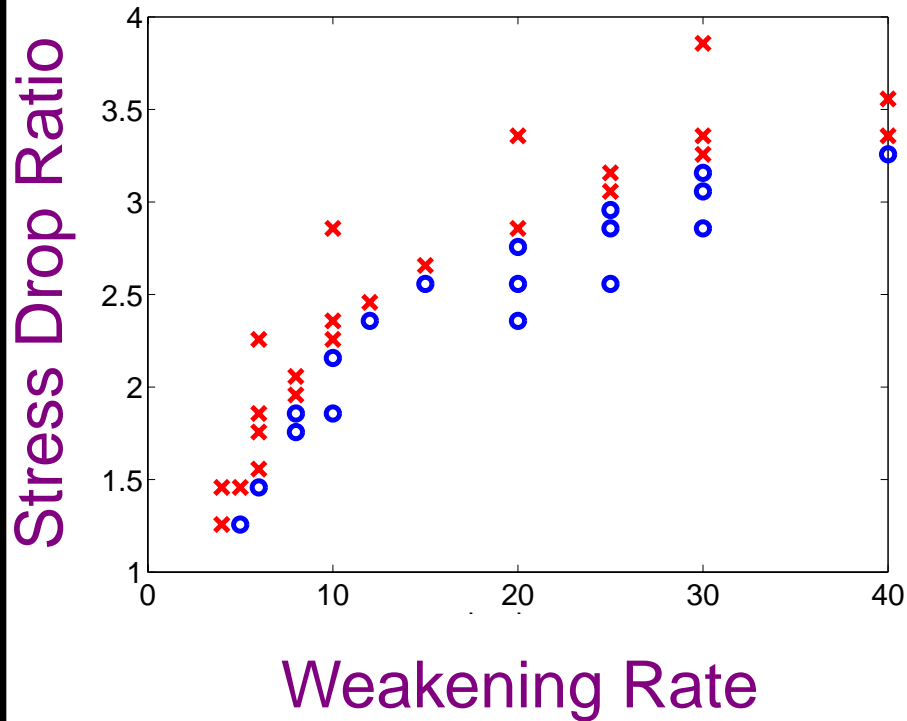


# Problem 3: Comparing Models with Phase Plots

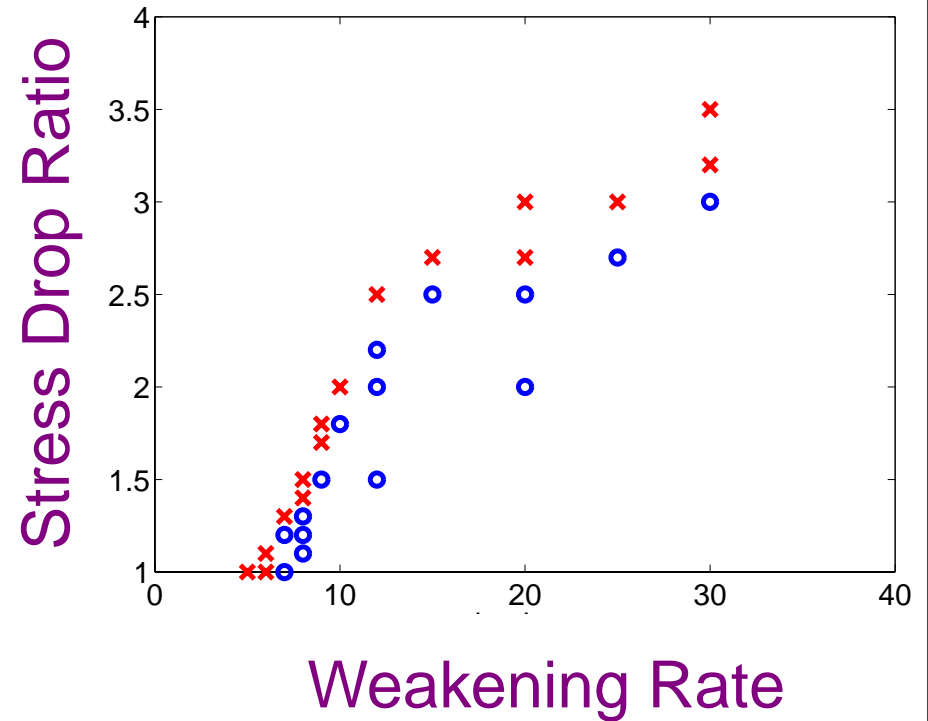
**Bruce Shaw**  
**Columbia University**

Simualtor Meeting 2010

## Different Friction Phase Plots



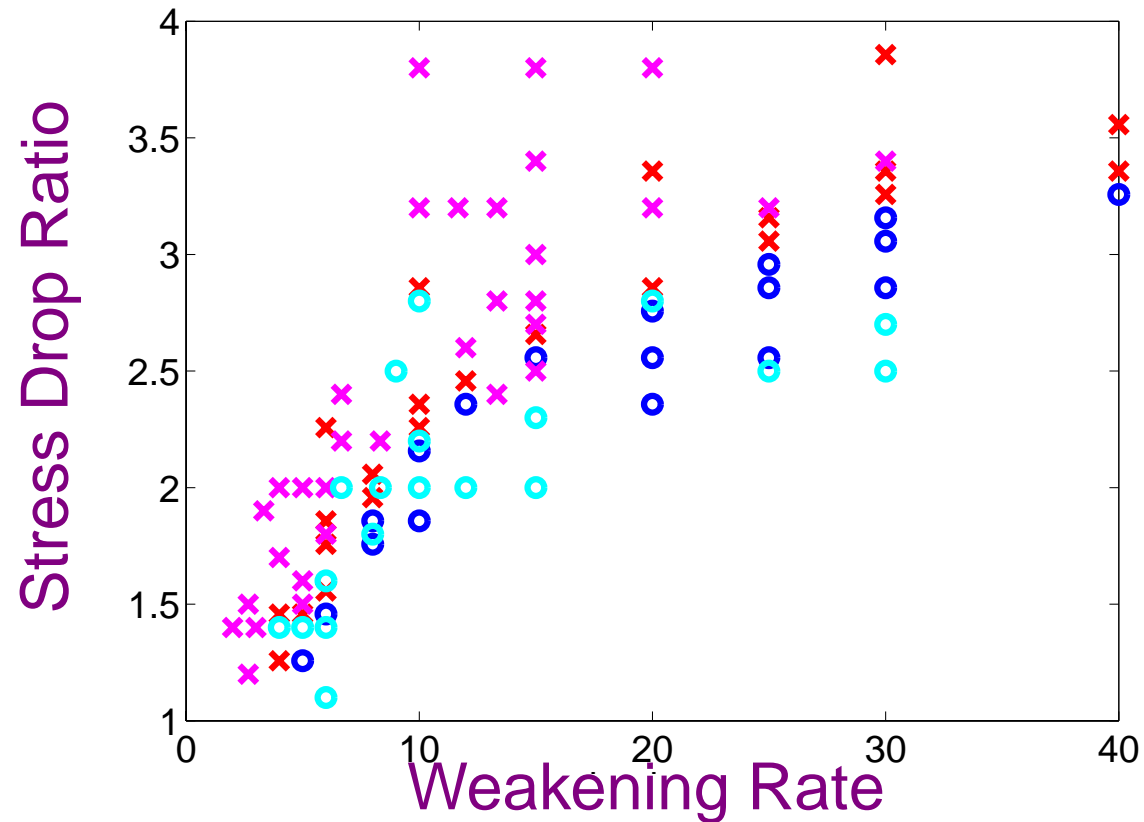
Slip Weakening



Mixture Slip and Velocity Weakening

- Similar shapes for different frictions

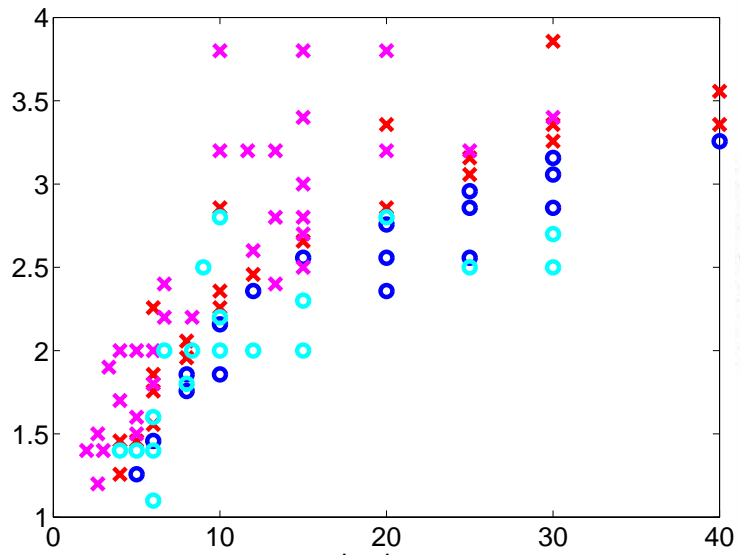
## Similar Shape in 2D Model



- Close agreement between Slip Weakening and Velocity Weakening Phase Plots

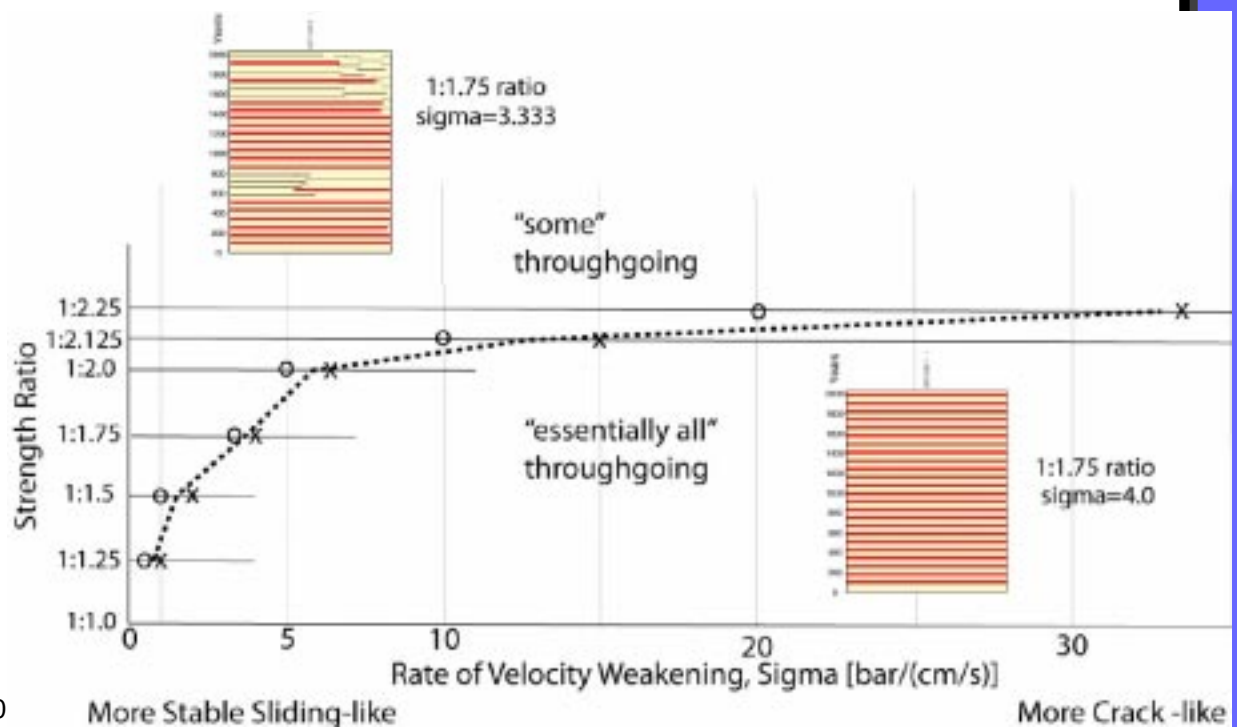
# Different Models

Stress Drop Ratio



Weakening Rate

Shaw Model



Weakening Rate

Ward Model