



Future SEAS Activities

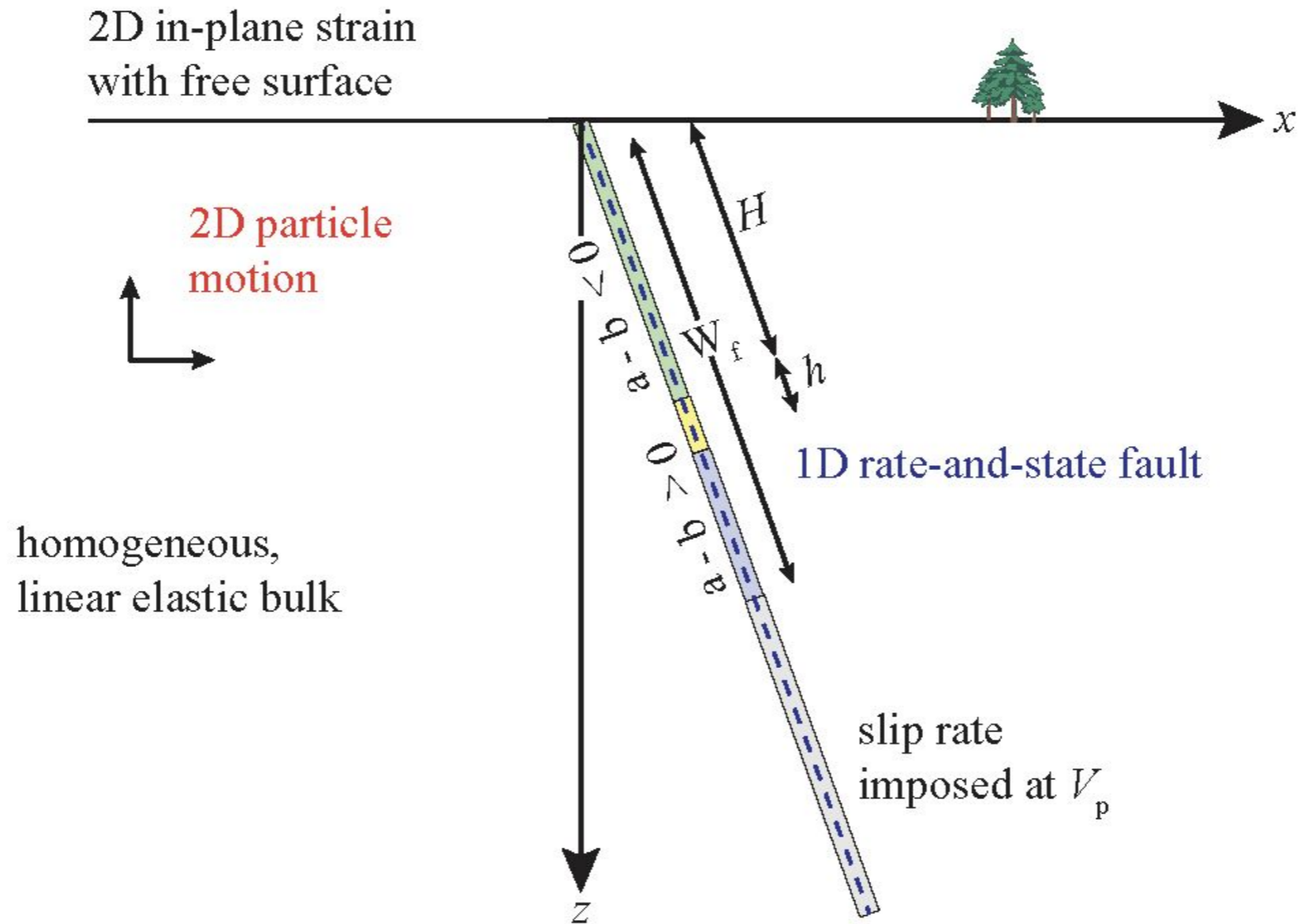
SCEC SEAS Workshop, Jan. 9, 2020



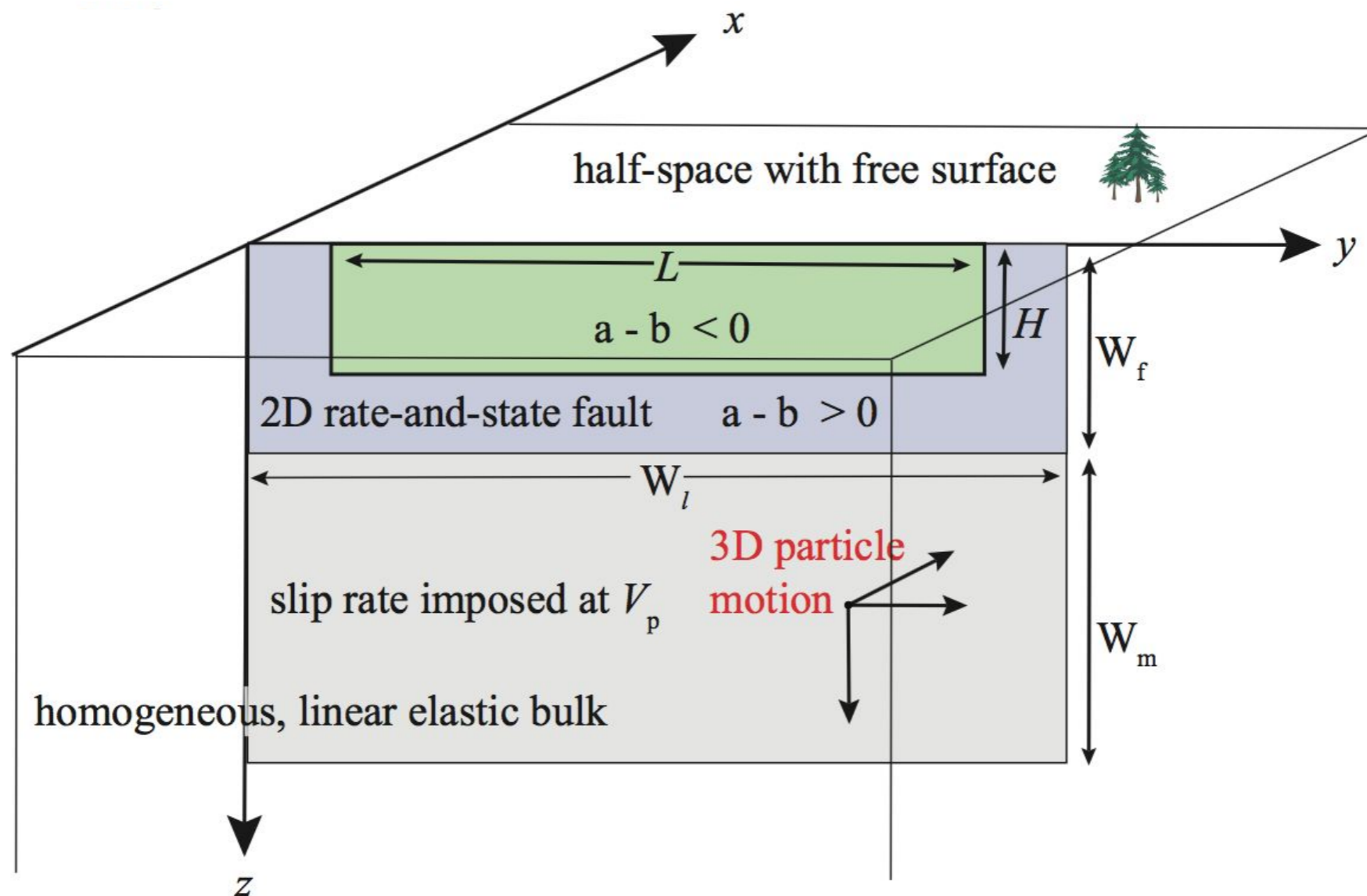
Benchmarks for code verification

- Guidelines
 - Start simple & incrementally increase model complexity
 - Take advantage of experience and tools from the dynamic rupture group
 - Design benchmarks that maximize participations
 - Develop the web platform based on comparison needs
- Tasks
 - What model features should we compare?
 - How do we assess agreements and discrepancies?
 - What constitute successful code verifications for SEAS models?

BP5: A 2D plane strain - dipping fault



BP6: A 3D problem in a half space, similar to BP4





Reflections on BP3-BP4

- Too ambitious?
- Computational feasibility?
- Comparable results across groups? (When do we decide results satisfactory?)
- Interest in the problem statement?

Feasibility of BP5-BP6?

Other potential benchmark problems

- Slight variations of BP3/BP4? e.g.:
 - BP4 with fault heterogeneity for preferred nucleation site
 - larger cohesive zone? 3D problem with small repeating earthquake?
- 2D rate-and-state friction with slip law?
- benchmark problem that has a known solution?



Platform Development Plan

- Adding tuning functions:
 - unit conversion (e.g. seconds to years)
 - time window selection
 - time translation (to remove spinup period)
- plotting function for slip contours at nonuniform time increments