PyLith Development

Code Maintenance

- Face group BCs — ■ 3, 100%
- VTK → VTU — ● 2, 100%
- QS Disp+Vel — ● 2
- Reformulate viscoelastic rheologies — ■ 4
- SWIG → pybind11 — ◆ 5, 30%
- New Pyre — ◆ 5

Performance

- Parallel mesh loading — ◆◆ 5,90%
- Adaptive time stepping — ● 1,80%
- Improved nondimen. — ■ 2,25%
- DMProject optimization — ◆ 3
- Incompressible elasticity preconditioner — ◆ 2,80%
- libCEED integration — ◆◆ 5

Usability

- Expand pylith_viz — ■ 2
- User material labels — ■ 2
- GeoModelGrids spatial database — ■ 2
- Simplify field settings — ■ 3
- Jupyter notebooks — ■ 5
- SCEC CRM spatial database — ■ 3
- Reorganize HDF5 output — ■ 4
- Adaptive Mesh Refinement — ◆◆ 4

Earthquake Cycle

- Prescribed dynamic slip — ◆◆ 5,80%
- Spontaneous rupture — ◆◆ 5,30%
- Drucker-Prager viscoelastoplastic — ◆ 3,10%
- Small strain — ■ 3
- QS+Dyn same mesh — ◆ 5
- QS+Dyn different meshes — ◆◆ 4

Data Assimilation

- CATMIP integration — ◆ 4
- Point sources — ◆ 4,85%
- Adjoints — ◆◆ 5

Multiphysics

- Viscoelastic rheologies for poroelasticity — ■ 4, 45%
- Faults with poroelastic properties — ◆ 4, 80%
- Physics via SymPy — ◆◆ 5

Surface Loading

- SpatialData → SpatialTimeData — ■ 4
- Complex spatial+temporal BCs — ■ 3