

Tandem updates

- **Summary of last code audit:** most of the computational load in PETSc. Load balance starts reasonable, but deteriorates to only moderate for 32 nodes.
 - GPUs predominantly idle,
 - partially efficient GPU utilization at start/end
 - much lower GPU utilization in middle section
- **New performance portability campaigns :** possibility of auditing the green function mode of tandem (not yet tested) or viscoelasticity when implementation finalized.
- **Improvements :** not really relevant because would require changing PETSc.
- **Porting activities:** code already ported on Leonardo and LUMI-G. Access to supermuc NG2 (intel ponte vecchio GPU), possibility of testing OpenCL and kokkos PETSC backend).
- **Use (integration with code/workflow) of TALP in performance monitoring activities:** nothing to report
- **Viscoelastic implementation in progress** — to represent lower crust and upper mantle rheology.
 - Enables realistic **postseismic relaxation** and **time-dependent fault loading** due to viscoelastic stress transfer.
 - **SIPG weak formulation** fully derived and discretized and validated with simple analytical test cases

