MAST-U / NSTX-U collaboration on startup

- Completed work: Adapt LRDFIT to prepare MAST-U startup scenarios and magnetics calibrations
  - Completed an example scenario within hardware limits
  - Supporting MAST-U collaborators on calculations

- Proposed work: Participate in developing startup scenarios when operations begin
  - Advise on changes to wall model
  - Optimize breakdown and ramp-up scenarios
  - Benefit: NSTX-U has similar breakdown optimization goals

- Main contacts:
  - Andrew Thornton, Andrew Kirk, Lucy Kogan, Lidia Piron

MAST-U / NSTX-U collaboration on real-time control

- Proposed: Develop sharing of real-time control algorithms
  - Both devices use GA PCS, but there are critical differences in the software and hardware infrastructure
  - PPPL has proposed to support update to MAST-U PCS software infrastructure, similar to what NSTX-U underwent ~ 2012

- Progress has been slow, could be accelerated
  - This is not on the radar for the first run campaign
  - GA has made a similar proposal to DOE
  - Benefit: Facilitates future collaborations on real-time control

- Main contacts:
  - Graham McArdle, Luigi Pangione, Eric Ren

Near term plans

- January/February: Travel to CCFE for one week
  - Need to finalize target startup scenario
  - Assist with "staging" calculations (what to do with hands and feet in the control room)
  - Continue developing / debugging LRDFIT capabilities

- Spring: Start tuning wall model, startup scenarios based on power supply tests and magnetic calibrations
  - Would like to travel to CCFE to participate

- Hoping to spend many weeks at MAST-U to participate in first plasma activities