Beam-beam tracking campagin: (D. Kaltchev, E. McIntosh, W. Herr)

- Tune scan, crossing scenarios and PACMAN effects
- Foreseen study parameters:
  - 4 beam-beam cases (HV vs HH, PACMAN vs NOMINAL)
  - 80 tunes
  - 60 seeds (MQX field errors)
  - 4 amplitude ranges (2 σ steps)
  - 17 angles
  - $\approx$ 1.3 10^6 cases
  - 10^6 turns for dynamic aperture determination
- Other studies: beam-beam with linear imperfections (shelved)

Tracking organization:

- Run on CPSS and BOINC (LHC@home)
- Using new run environment for SIXTRACK
- Separated in tasks corresponding to a workspace
- One workspace is limited to 30000 cases

Typical workspace:

- 1 beam-beam case (i.e. HH or HV, PACMAN or NOMINAL)
- 20 seeds (MQX)
- 21 tunes
- 17 angles
- 4 amplitudes
- → 28560 cases per workspace
- → 48 workspaces in total (16, see later)

Speed and progress:

- For one workspace: $\approx$ 20 - 30 days
- On BOINC: we run 5 - 7 workspaces in parallel
- BOINC: mainly by Eric, CPSS mainly by Dobrin
- BOINC produces about 3 to 4 times as much as CPSS
- Problems on BOINC:
  - → AFS disk space for results, needs skilled person
  - → For future: needs to be solved/discussed, maybe a disk server

Present status:

- To get results we have staged the tracking:
  - 20 seeds instead of 60 for all tunes and beam-beam cases
  - HV cases completed
  - HH cases hopefully completed in about 1.5 month (present estimate)
- Present these first results and track additional seeds in regions of good working points only to save time.