

meeting 2009-03-09 Model Manager GUI Review

WHAT: Model Manager GUI Review

WHEN: Monday, March 9, 2009, 3-4pm

WHERE: MCC Conference room

Attendees: Paul Emma, Franz-Josef, Mark Woodley, Tom Himel, Mike Stanek, Henrik, Juhau, Patrick, Mike Z, Greg White, Sonya Hoobler, Debbie Rogind, Paul Chu (presenter)

Paul Chu demonstrated the Model Manager GUI. This GUI is meant for looking at past, saved model runs, or for running the model against the design or extant machine and then optionally saving the results to Oracle. The GUI contains a z plot in which Twiss parameters can be plotted. A past version of the Model Manager (not the latest one demoed) is available from lclshome, user dev panel.

Notes on GUI layout:

- The toolbar contains often used functions arranged in a left to right fashion across the top.
- Standard buttons for our HLApps that are model-based are:
Beamline combo box, ->Logbook, Save to Matlab, Help
- The Message window is another common non-collapsible region containing scrollable, color coded messages
- Filled in small arrow heads collapse certain regions (like Orbit Display)

Toolbar Button details:

- "Design" combo box typo; Change label to "Design"
- Currently, If Design is chosen, initial Twiss parameter combo box is not applicable -If Extant is chosen, initial Twiss parameter combo box indicates device
- Should first initial Twiss combo box item be YAG01 or CATHODE? Or back propagate to YAG01 only?
- "->Logbook" should be moved to left of Help button, all the way to right
- "Set Init Twiss" button; Change to "Edit Init Twiss...", or "Edit Twiss at selected reference point" (reference point being combo box containing OTR2, etc.
- "Save to CSV": All present physicists said "Save to CSV" was OK, except for Paul Emma, who likes "Save to Matlab" better. Both will be provided.

"Saved Model Runs" table:

- Reference is blue color unless it is gold (last design model is automatically gold right now)
- Default will be changed to extant gold upon startup of application
- Gold is gold color
- "EXT" should be labeled "SElected"
- Click column header to sort by that column, second click sorts opposite direction, third click returns to initial column state
- bug of clicking a line's REF check box and having another REF check box still checked (next to original gold). This is now fixed in dev version. Should the check boxes become radio buttons?

"Running the model:"

- After pressing Run Model button, latest result is shown as a row in "Saved Model Runs" table below.
- This result is contained in memory only and is labelled "Run"; each subsequent "Run Model" button pressing overwrites this one in memory. User can "Upload to DB" to save the "Run" model into Oracle permanently if desired.
- When running extant model, ensure LEM was previously run successfully so that magnets are set properly (as well as energy PVs). Extant model enlists LEM Lite to get BDES, RF values, uses ideal fudge factors.
- Future - will be able to input energy at which model was run (differs in undulator) -Currently, the latest design model is automatically gold; this will be superseded by the "Make Gold" button so that the user can chose
- "Refresh" button; Change label to "Restore to Default" or "Defaults"
- As far as different energies:
The only advantage of running design model for energies other than 13.64 GeV is that the energy dependent parameters such as energies, BDES are directly accessible; otherwise, they are derivable from 13.64 GeV model. It's the matter of convenience/policy (need to run DESIGN model every time energy changed). I don't know if we have a final conclusion or not. Bottom line: it's pretty easy to implement the capability of running design model for different energies.

"Upload to DB":

- Possibly change this button label to "Save"
- Connection dialog - change label "SLACPROD" to "Connect to Prod DB"; change label "SLACDEV" to "Connect to Dev DB"

Plotting:

- Phase 1, plotting options OK;
- Phase 2, include more Twiss parameter plotting options (to be provided by physicists) -"Plot Diff vs Reference" should be labeled "Plot Diff from Reference".
- Will add R56/R66 and R66 to plot selection
- Too many trailing zeros on z plot right now!
- Too few Y-axis labels when z plot graph is small!
- Add "Show EPICS names" / "Show MAD names" radio buttons (like Orbit Display)

These minutes, as well as any comments, will also be posted on our HLA confluence website.

Comments / corrections / additions are welcome!

Thanks goes to Paul Chu!

- Debbie