

**Ramp Design and Implementation**

or

**A New Beginning**

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2015 RHIC Retreat

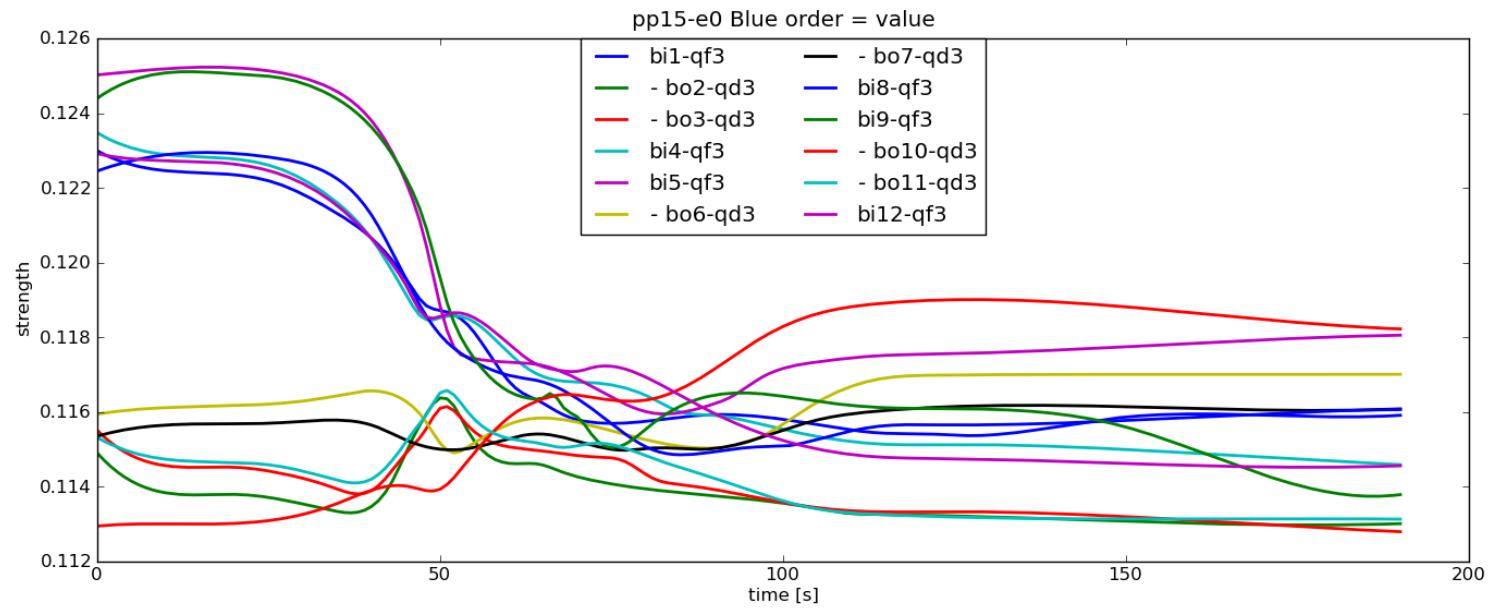
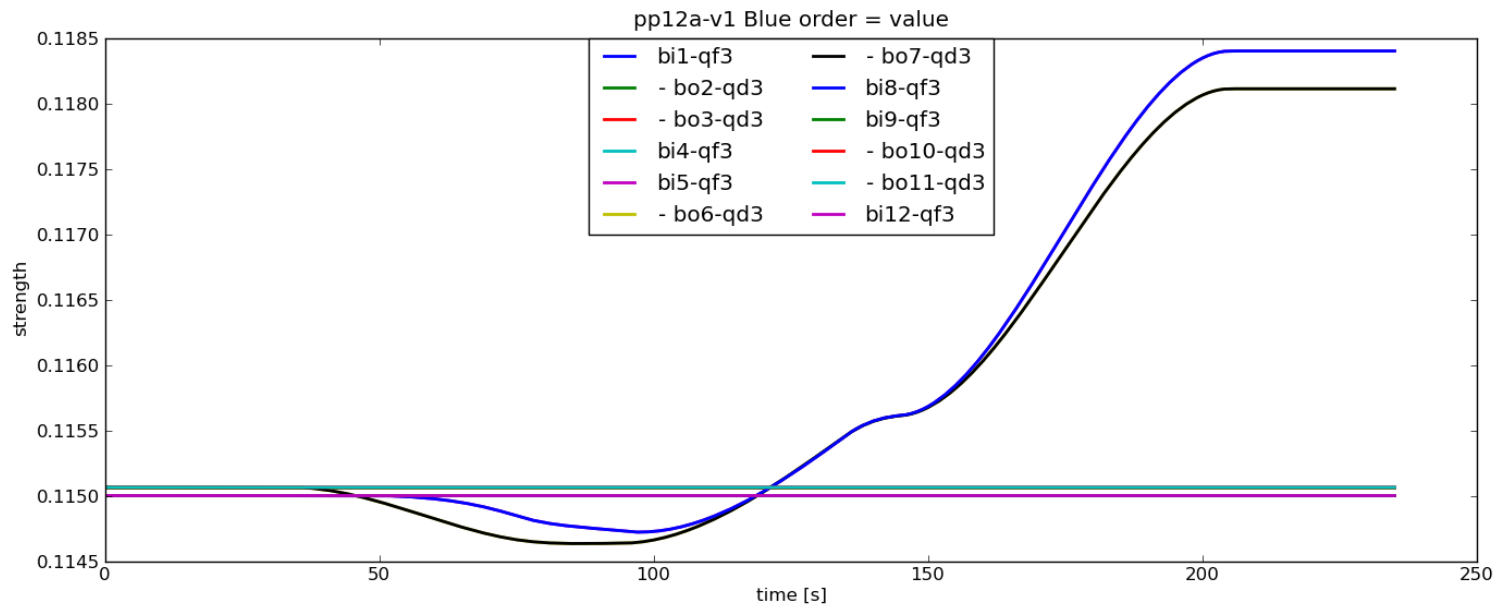
This is a brief report on the progress of the project of improving ramp design and implementation which was started 2 years ago.

Since last retreat, there have been 2 great achievements:

- strengths of quads (and potentially any other magnet) are now represented by cubic splines (with up to 42 pieces) as a function of time,
- MAD-X was used to calculate strengths on the ramp of all quads in RHIC.

That resulted in better than ever agreement between model and measurements.

In addition, almost all OptiCalc and RampManager issues were fixed, for example the problem of smoothing of tunes / chromaticities / strengths was resolved.



## **What remains to be done:**

- Simplify OptiCalc / MADX configuration files.
- Simplify RHIC configuration change procedure.
- Re-fit magnet measurements.
- Fix RampEditor, FeedbackEditor (to be done by Controls group).