

Circumference Lengthening

04/10/15 measurements

V. Ptitsyn, S. Brooks, Y. Hao,

N. Kling, A. Marusic,

G. Robert-Demolaize, D. Trbojevic

03/27/15 study

- Measurements were done at the injection
- Used momentum change dp/p up to 0.067 (radial shift ~ 11 mm in arcs)
- Tune feedback and chromaticity measurements and correction
- Working point improvement at store stone ($r=11\text{mm}$):
 $Q_x=0.701$, $Q_y=0.685$
- Optics measurements at the store: optics looks good.
- Ramps with different goal tune pattern on the ramp. Max beam survival $\sim 20\%$.
- Max loss in Q8-Q9 area in sector 4

Dedicated Ramp

The screenshot shows the RampEditor software interface. The title bar reads "RampEditor (on cscompile01.pbn.bnl.gov)". The menu bar includes "Ramp", "Edit", "Buffer", "Optics", "Stepstone", "Compare", "Diagnostics", and "Help". The status bar shows "Editing: pp15-APEXradius0", "Live Stone: pp15-APEXradius0::store", "Ramp State: LastStone", and buttons for "Save" and "Activate / Make Live". The "Stepstone Editor" tab is active, showing a table with columns for Time, Stepstone, Gamma, TuneX, TuneY, ChromX, and ChromY. The table has 4 rows, with the 4th row highlighted in green. A secondary table on the right shows TuneX, TuneY, ChromX, and ChromY values for the selected row. At the bottom, a "Tune Nudge" control is set to 0.0005. A log window at the bottom displays messages: "wfgMan:messageM = Auxramp to last initiated (53 PS moved) (Mar 11 10:01:41)", "Ramp activate successful. (Mar 11 10:01:43)", and "Ramp file activated - pp15-APEXradius0_1426082499 (Mar 11 10:01:43)".

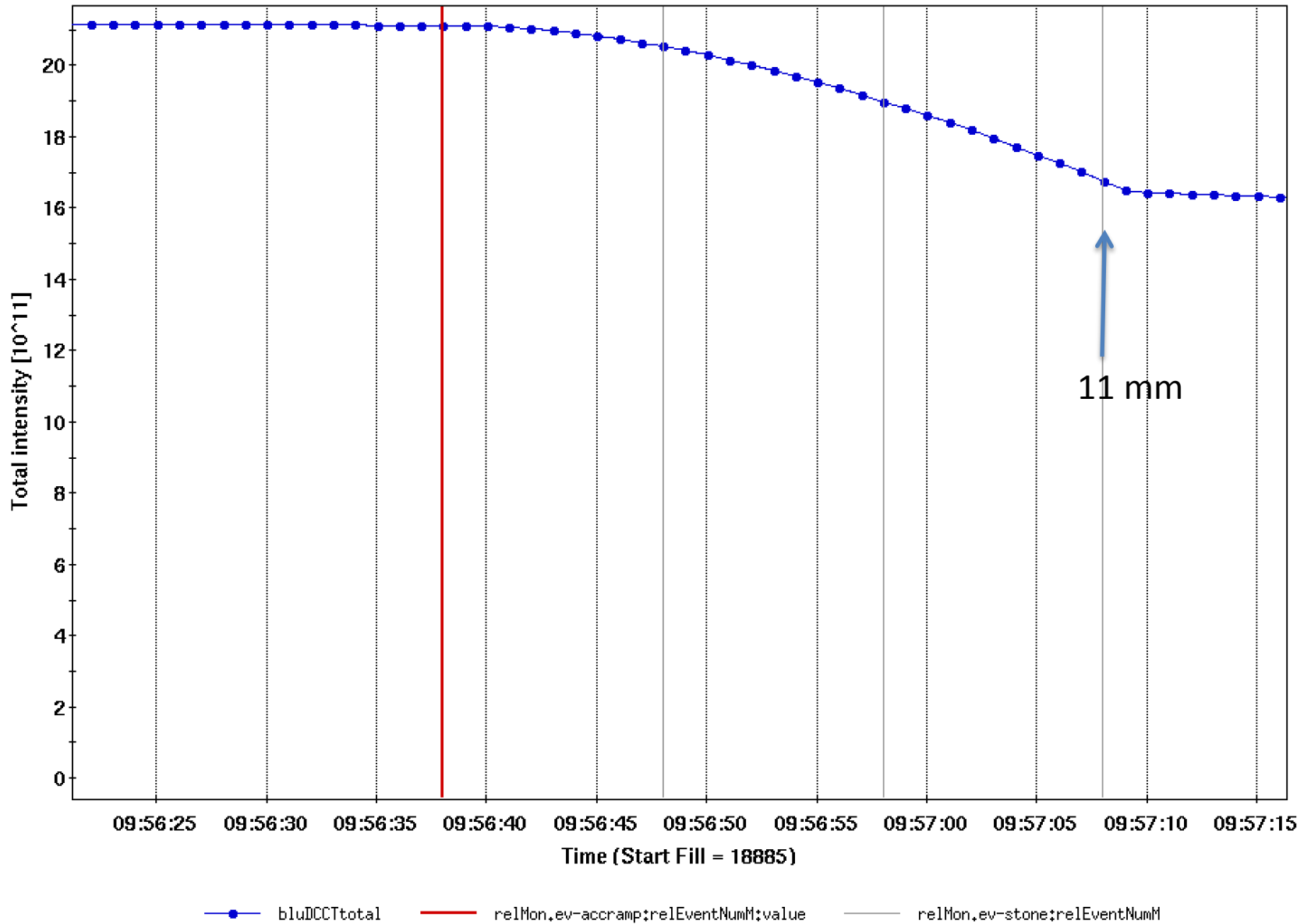
Time	Stepstone	Gamma	TuneX	TuneY	ChromX	ChromY	
1	0.0	injection	25.379	29.6222	30.6058	2.6	0.5
2	10.0	t10	25.379	29.7027	30.6857	-0.4	-0.1
3	20.0	t20	25.379	29.8094	30.7883	-6.6	-0.9
4	30.0	store	25.379	29.9140	30.8723	-38.5	-2.7

TuneX	TuneY	ChromX	ChromY
29.6222	30.6058	2.6	0.5
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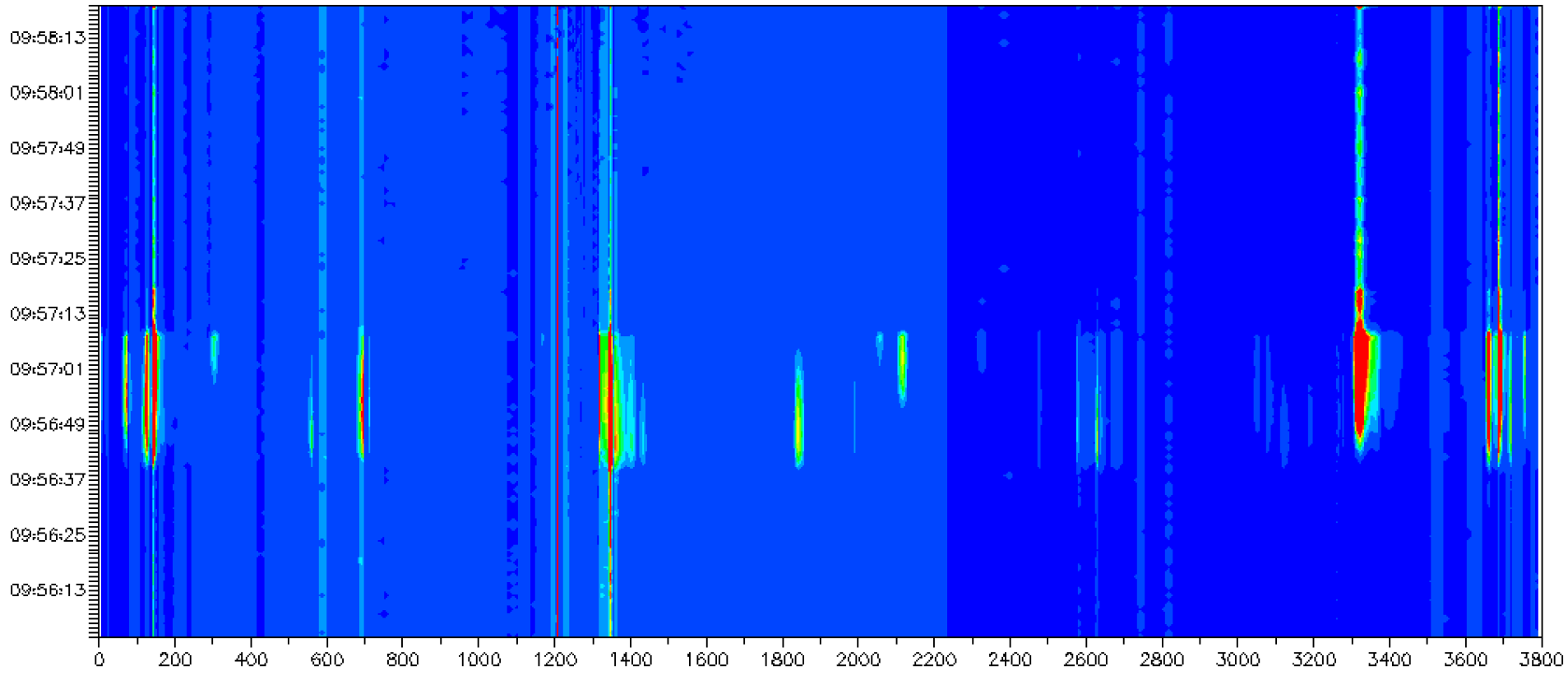
Tune Nudge = 0.0005

wfgMan:messageM = Auxramp to last initiated (53 PS moved) (Mar 11 10:01:41)
Ramp activate successful. (Mar 11 10:01:43)
Ramp file activated - pp15-APEXradius0_1426082499 (Mar 11 10:01:43)

Best achieved



Beam loss pattern



=> Lattice: Blue

