



Tevatron Lattice and Measurement Status

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- Low- β optics change in Feb 08
- Low- β optics measurement in Jun 08
- Separator scan on 12 Aug 08

Summary Tables. ORM 1/26/08

	β_x pbar	β_y pbar	β_x prot	β_y prot	β^*
CDF	31.6	41.8	31.4	28.3	33.3
D0	28.1	35.8	31.4	29.9	31.3
	±15%		±10%		

Alex Valishev

	D_x pbar	D_y pbar	D_x prot	D_y prot	D^*	
CDF	0.5	0.0	2.1	-0.1	1.3	±10%
D0	5.7	1.1	6.6	1.8	6.3	±10%

Before correction – note large dispersion @ D0

$$\sigma^2 = \varepsilon\beta + D^2\sigma_\delta^2$$

Example: $\varepsilon = 20 \pi$ mm mrad, $\beta = 30$ cm
 $D = 6$ cm $\Delta p/p = 1.5 \times 10^{-4}$

$$\sigma^2 = (30.9 \mu\text{m})^2 + (9 \mu\text{m})^2 \rightarrow \sigma \approx 32.2 \text{ cm}$$

Summary Tables. ORM 2/21/08

	β_x prot	β_y prot	β^*	
CDF	30.3	29.3	29.8	±10%
D0	30.5	34.3	32.4	±10%

	D_x prot	D_y prot	D^*	
CDF	0.6	0.8	1.0	±10%
D0	1.9	-1.6	2.5	±10%

After correction – dispersion @ D0 reduced
in use since store 5891

Alex Valishev

Summary Tables. ORM 6/9/08

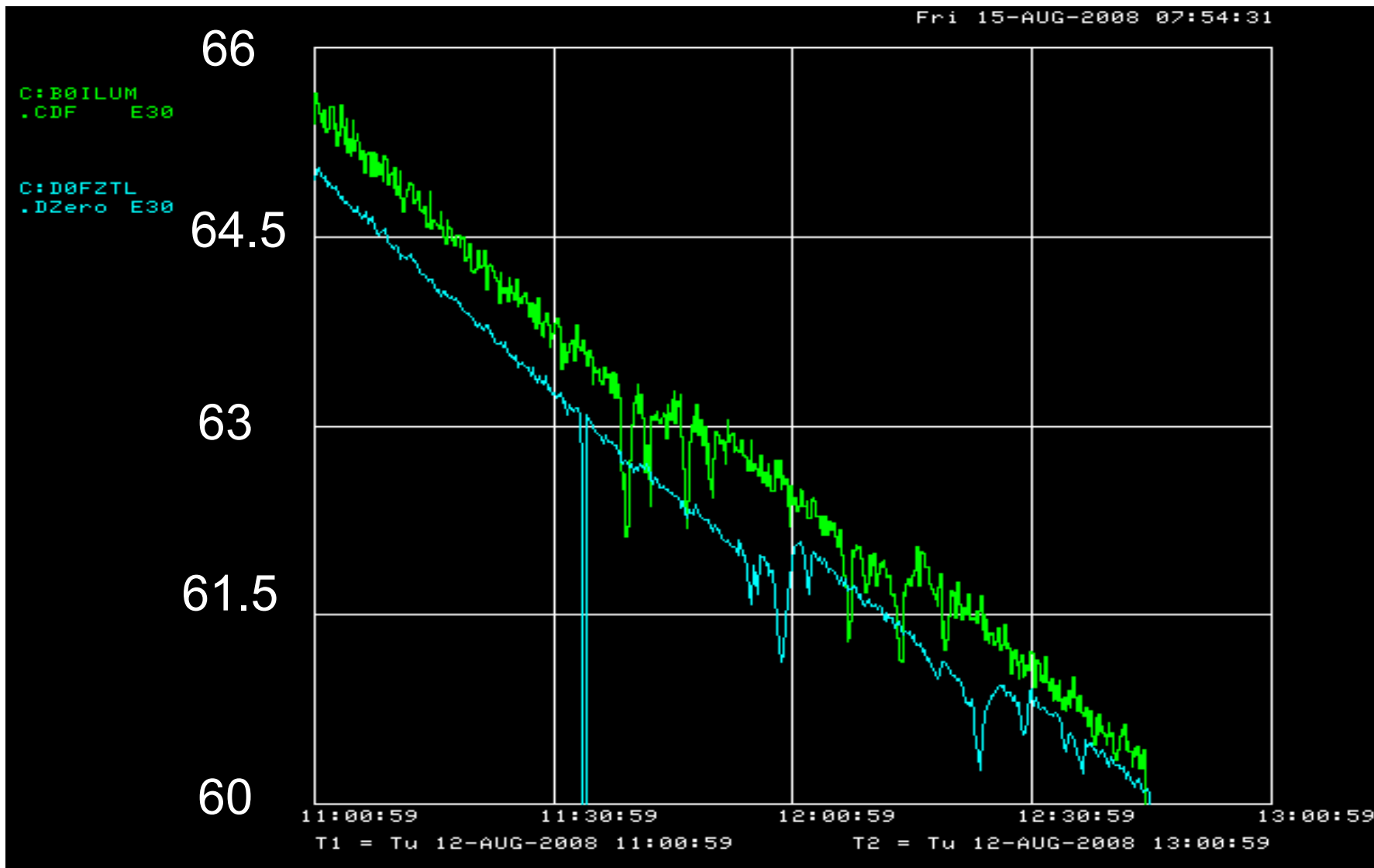
	β_x prot	β_y prot	β^*	
CDF	27.9	27.3	27.6	$\pm 15\%$
DO	25.5	31.1	28.2	$\pm 15\%$

	D_x prot	D_y prot	D^*	
CDF	0.7	1.4	1.6	$\pm 10\%$
DO	1.5	-1.3	2.0	$\pm 10\%$

Consistent with 2/21/08 measurements
No changes made

Alex Valishev

Luminosities during separator scan



Only minor improvement
In use since store 6357

Jerry Annala



Summary

- Changed low- β optics in Feb to reduce dispersion at D0
- Measured optics in June – no changes needed
- Separator scan in August made only minor improvements
- We are due for a routine low- β optics measurement