



ISR-BOM/KB/GB/afm

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ISR Performance Report

Run 882 - Physics run (26.8 A - 27.0 A)

Adjustment of the magnetic beam detector

As a consequence of modifications made to the magnetic beam detector, which enable simultaneous measurement of the horizontal and vertical beam positions in I5 in both rings, a re-calibration had to be made. As the MD schedule was already heavily loaded, it was decided that these adjustments could be made at the end of a physics run. This decision proved to be justified, since the measurement of the beam positions (i.e. the vertical modulation of the beam position in I5 by a few 1/100 mm) had not the slightest measurable influence on the background and none of the physicists taking data could observe a change in their beam conditions.

After the adjustments some measurements were performed. The results are given in the table below (values in mm).

	R1		R2	
	Vert	Hor	Vert	Hor
Initial position of the beams	-0.13	3.2	-0.17	1.5
Addition of vertical bump				
R1 +0.2 mm	0.05	3.1	-0.36	1.6
R2 -0.2 mm				
Addition of vertical bump				
R1 +0.2 mm	0.24	3.0	-0.56	1.6
R2 -0.2 mm				
Removal of bumps	-0.13	3.1	-0.19	1.6
Vertical bumps to get 0 in I5				
R1 +0.13	-0.01	3.1	-0.01	1.6
R2 +0.19				

After the last step the beams were, according to the magnetic beam detector, optimally adjusted vertically. Indeed, an increase in luminosity of 1 % with respect to the initial settings was measured !

The magnetic beam detector is now operational and we recommend its use for luminosity optimisation in I5.

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