

Ian Bird

From: Roger Bailey
Sent: 03 March 2009 13:27
To: mmp@fnal.gov
Cc: Steve Myers; Acc-Tec-Director Office; Massimiliano Ferro-Luzzi
Subject: Collisions 2009 2010
Attachments: Collisions20092010.xls

Dear Mario,

Attached and below a simple file summarising an estimation of time with colliding beams in 2009 and 2010. For your information, the mode is either SU (setup) SD (shutdown), and when running either the number of bunches per beam (43 or 156) or the bunch spacing (50ns or 25ns).

As indicated in the earlier mail, this has been discussed and agreed this morning with the LHC program coordinator.

The next step (for us) is to now estimate the average luminosities that we can expect in the various modes. It is here where more discussion is needed, to see how we might make the transition from, say, 156 bunch operation to 50ns operation (where there are up to 1404 bunches per beam). I am expecting that integrated luminosities for 2009 will be of order few pb-1, for 2010 of order few hundred pb-1.

Regards, Roger

Integrated data		2009			2010											
	units	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mode	#/ns	SU	43	156	SD	SU	156	156	50	50	50	50	25	25	SD	SD
Availability	%	50	50	50	0	50	60	60	60	60	80	80	80	80	0	0
Efficiency	%	0	20	20	0	0	40	40	40	40	40	40	40	40	0	0
Collisions	1e6 secs	0	0.25	0.25	0	0	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.8	0	0
Collisions	1e6 secs	0.5			5.6											

Notes

Availability is based on input from Serge Claudet for cryogenics, which I expect to dominate

Efficiency is based on LEP experience (time in physics/time of available machine)