

Report on COMPASS Period 1.Oct.04-8.Oct.04

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October 8, 2004

1. Data taking with muons 1-4. Oct.
2. Hadron run preparations 4-8. Oct.
3. What next ?

Data taking with 160 GeV Muons

Scheduled beam:

from 1. Oct. 12:00 till 4. Oct 8:00

	0-8	8-16	16-24
Fr. Oct. 1	++++ - - - - - - - - - -	- - - ++++ Water Leak on SM2	100 GeV High Int.
Sa. Oct. 2	100 GeV High Int.	160 GeV μ Low Int. SPS down	++++(1a)++++
Su. Oct. 3	++++ - - - - (1b)- - -	- - - - - - - - ++++++(2a)+	++++++ - - - - -
Mo. Oct. 4	- - (2b)- - - - - -		

1. +/- Pair

(a) + Oct. 1 10:32 Run 41300 -> Oct. 3, 2:09 Run 41354, **1458** Spills(+200?) ~7 Runs

(b) - Oct. 3 3:55 Run 41358 -> Oct. 3, 10:50 Run 41369, **1240** Spills ~6 Runs

2. +/- Pair

(a) + Oct 3 11:37 Run 41372 -> Oct. 3, 21:23 Run 41382, **1549** Spills ~7 Runs

(b) - Oct 3, 22:49 Run 41387 ->Oct. 4, 7:29 Run 41397, **1698** Spills ~8 Runs

Overall efficiency for the last 5 shifts: $5945/8000=74\%$ (3 rotations of 40 min cost 400 spills $\approx 5\%$)

The (unavoidable) Efficiency Plot

Period From: Fri, 01 Oct 2004 12:35 To: Mon, 04 Oct 2004 08:35

Calculated At: Fri, 08 Oct 2004 11:35

Length of time excluding scheduled MD: 68.00 hours

**** Efficiency of PS/SPS

a: Total SPS Circle (exclude scheduled MD): 13269.0

b: SPS spill with T6 current >30.0: 10759

c: Sum of T6 current 1296151.4

d: (=b/a) PS/SPS Efficiency: 81.1%

**** Muon Beam In HALL 888

f: SPS spill In Hall with Muon Count >100000.0: 9984

g: Sum of In Hall Muon Count: 1755423501290.0

h: (=f/b) SPS Spill Get in 888: 92.8%

**** Use of SPS/Inhall Spill in COMPASS

i: Spill used with SF2X counting >100000.0: 8841

l: Sum of Used Spill SF2X count: 1561024878361.0

j: (=i/f) Inhall spill used: 88.6%

k: (=i/b) SPS spill used: 82.2%

Distribution of used spills:

field_rotation runs used 274 spills, 3.1%

random_trig runs used 119 spills, 1.3%

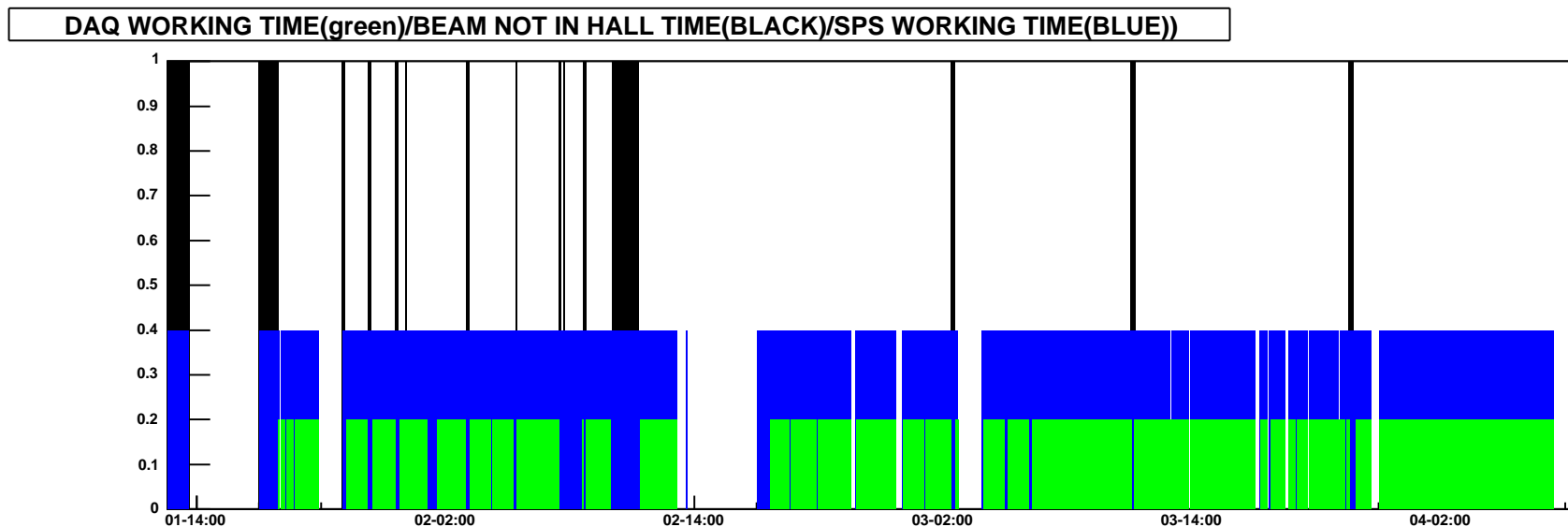
physics- runs used 2911 spills, 32.9%

physics+ runs used 3428 spills, 38.8%

calibration runs used 20 spills, 0.2%

detector_test runs used 2075 spills, 23.5%

physics runs used 14 spills, 0.2%



High Intensity Run at 100 GeV

Problem with field configuration:

100 GeV Beam requires 100/160 Field Reduction in SM1 and SM2 for same Beam Position
with Field configuration **A**: 1200 A (SM1) and 2500 A (SM2)

Problem: No Field map for SM1 (reconstruction difficult)

with Field configuration **B**: 2500 A (SM1) and 2000 A (SM2)

Problem: Beam passes through active area of GEMs, Trigger not tuned

We took Data with both configurations at 3 different Intensities:

	40 mm	100 mm	500 mm
Config A	Run 41314	41315	41317
Config B	41324/25	41322/23	41317/21
	$0.56 \cdot 10^8/\text{spill}$	$1.25 \cdot 10^8/\text{spill}$	$2.75 \cdot 10^8/\text{spill}$

Hadron Run Preparation

Beam scheduled 25ns Tu. Oct.5-> Mo. Oct. 11, 8:00

	0-8	8-16	16-24
Mo. Oct. 4	Muons finish	all HV off, Si,Fi2,V1I moved	Pol. Tgt stop
Tu. Oct. 5		Targetmaterial removed	25 ns Protons tuned
We. Oct. 6	CEDARS	CEDARS	CEDARS
Th. Oct. 7	Electrons for ECAL2	CEDARS till 14:00, PT work	PT work 20:00 ECAL2
Fr. Oct. 8	ECAL2 calib	Pol. Tgt. Work, SM2 water	

1. Polarized Targed is prepared to be removed on Monday Oct. 11
2. CEDARs 1(upstr.) and 2(downstr.) are debugged and aligned
 - (a) Many faults found in mechanics and gas system
 - (b) Data coexistence CERN/COMPASS not yet solved
3. ECAL2 initial calibration for SADC finished
4. Minimal triggers (beam, inner veto) are available

What next?

Monday 11, Pol.Tgt Magnet removed.

Installations:

1. BeamKiller(Sa.9),
2. ECAL2(Sa.9, Su.10),
3. VetoBox (Tu. 12), SciFi 3 back in
4. Primak.Hodoscope (after ECAL2),
5. Silicons
6. Multiplicity counter

Sa,Su,Mo (+muon) beam 160 GeV and Hadron Beam (-h)(-2500 A SM1 & -5000 A SM2)

for trigger timing of beam killers and CEDARs

if SM2 repair can be finished today!!