

LAPPD #153 tests  
in M113

20/03/2024

(1)

LAPPD is connected to HV Power supply  
Configuration: Nominal biasing 200-875-50V.

<u>Hysteresis Scan</u>	<u>MetroLab NMR</u>
I (A)	B (T)
675	+1.491281
-675	-1.491384
675	+1.491545
-675	-1.491429
675	1.491272
-675	1.49143
675	1.491583

Hall Probe (TS) (T)

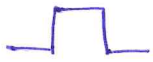
	1.4849
X	+ 1.4821
Y	- 0.12190
Z	- 0.04291
tot	+ 1.4878
<hr/>	
X	- 1.4805
Y	+ 0.10781
Z	+ 0.05597
tot	+ 1.4855

21/03/2024

200-875-50V.

Signal (without light source) ~ 100 mV

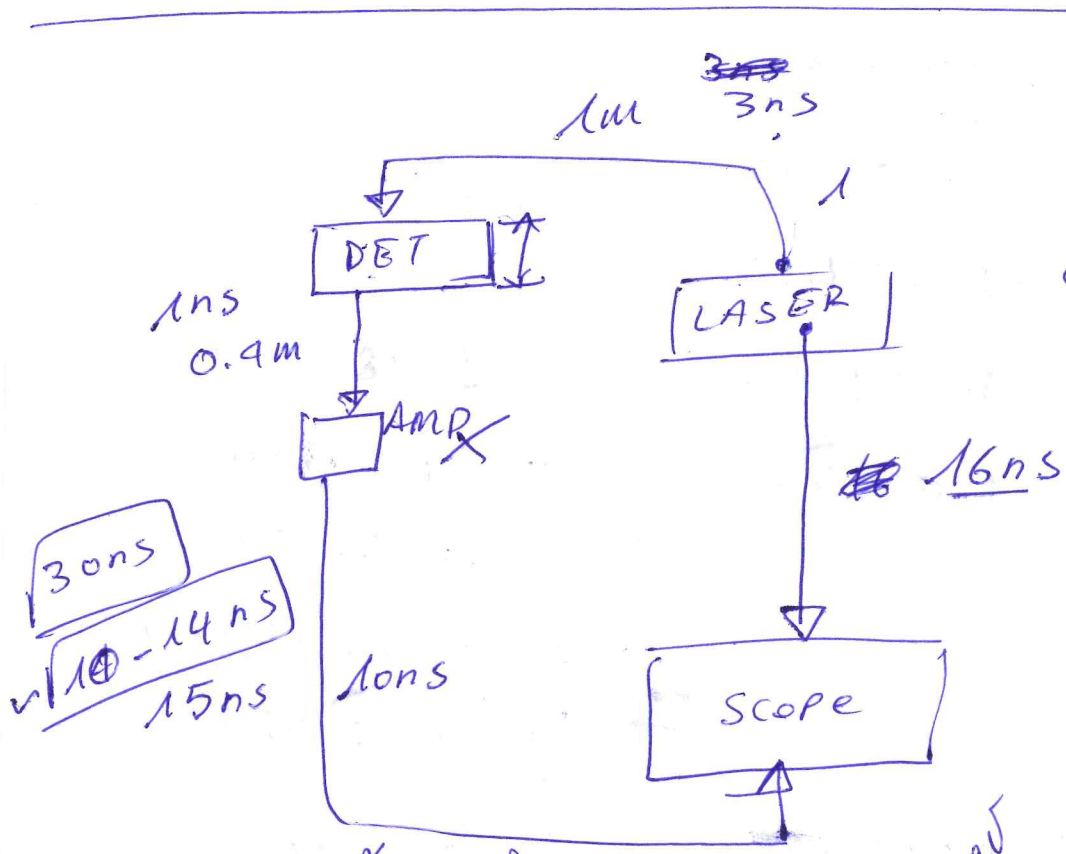
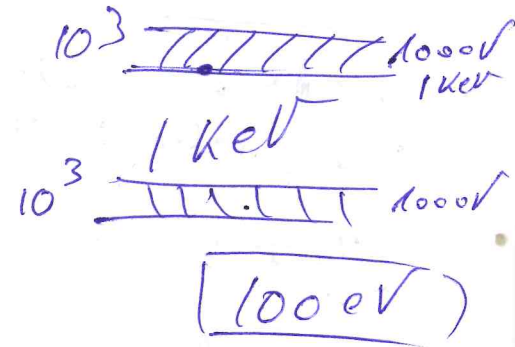
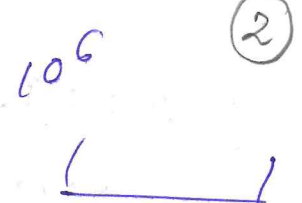
Pulsar setting:



Amp: ~~0.1 V~~ 1 V (V<sub>RMS</sub>)

Freq: 600 Hz

Width: 20 ns



$E = 100 \text{ eV}$

$E^2 = p^2 + m^2$

$100^2 = p^2 + (0.5 \cdot 10^6)^2$

$(100)^2 - (0.5 \cdot 10^6)^2 = p^2$

$E = \frac{p}{2m}$

$E = \frac{1 \text{ mV}}{2m}$

$E = \frac{100 \text{ eV}}{c^2}$

$E = \frac{1 \text{ mV}}{2m}$

$E = \frac{1 \text{ pV}}{2m}$

$p = \sqrt{2mE}$

$= \sqrt{2 * 500 * 10^3 * 100 \text{ eV}}$

$= \sqrt{1000 * 10^5}$

$= \sqrt{10^8}$

$\approx 10^4 \text{ eV}$

$\approx 10^3 \text{ eV}$

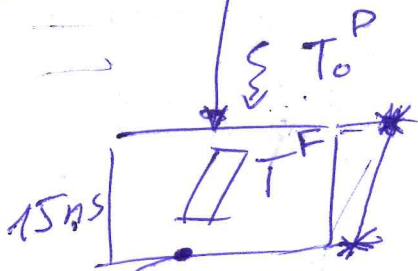
$\approx 1 \text{ KeV}$

$$\frac{0.3}{0.9} 10^{-8} s$$

(3)

$$\frac{3 \cdot 10^8 \text{ m/s}}{1.6} \frac{\text{m}}{3 \cdot 10^8 \text{ s}}$$

$$3 \cdot 10^{-9} s$$



$$1.6 \cdot 10^{-8} s$$

$$1.6 \cdot 10^{-10} \cdot 10^8 s$$

$$16 \cdot 10^{-9} s$$

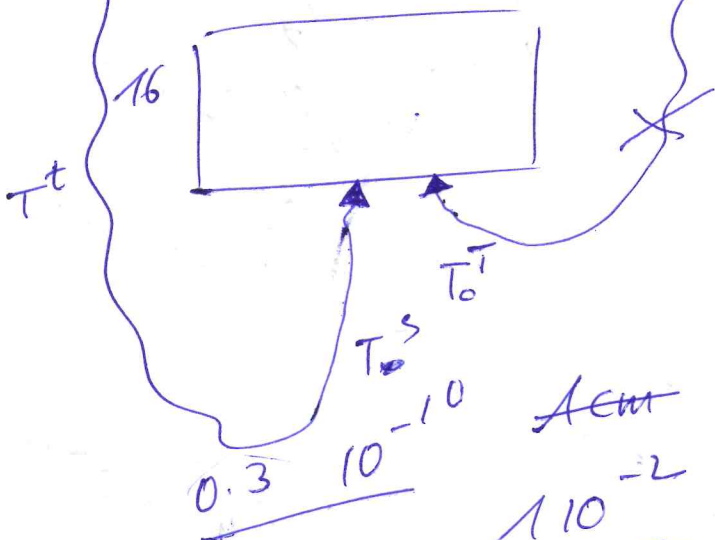
$$16 \text{ ns}$$

$$\boxed{32}$$

119 ns



(19)



$$T_0^T = T_0 + \Delta T$$

$$= T_0 + 16 \text{ ns}$$

$$T_0^P = T_0 + 16 \text{ ns}$$

$$T_0^T - T_0^P = ?$$

$$T_S = T_0^P + T^F + T^t$$

$$t = \left[ \frac{1}{0.05} \right]$$

$$m = 511 \frac{\text{KeV}}{c^2}$$

$$\frac{26 \cdot 10^{-3}}{3 \cdot 10^8}$$

$$5 \cdot 10^{-2}$$

$$4 \cdot 10^{-11}$$

$$v = 0.05 c$$

$$\frac{1}{2} m v^2 = E_e$$

$$v^2 = \frac{100 \cdot 2}{511 \cdot 10^3} c^2 = \frac{1}{2} \cdot 511 \cdot 10^3 \cdot v^2 = 100 \cdot c^2$$

$$= \frac{2}{1000} c^2$$

1cm

(4)

~~10<sup>-10</sup>~~



$$\frac{1 \times 10^{-2} \text{ m}}{3 \times 10^8 \text{ m/s}} \text{ s}$$

$$V = 0.002 \text{ C}$$
$$t = 2 \times 10^{-3}$$

$$\frac{0.3 \times 10^{-10} \text{ s}}{5 \times 10^{-2}}$$

→ ns

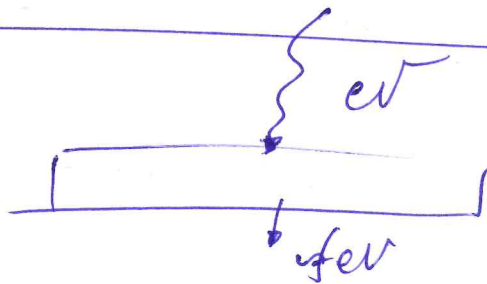
$$\frac{0.3}{5} \times 10^{-8} \text{ s}$$

$$V^2 = \frac{1 \times 2}{511 \times 10^3} \text{ c}^2$$
$$= \frac{1}{250} \text{ c}^2$$

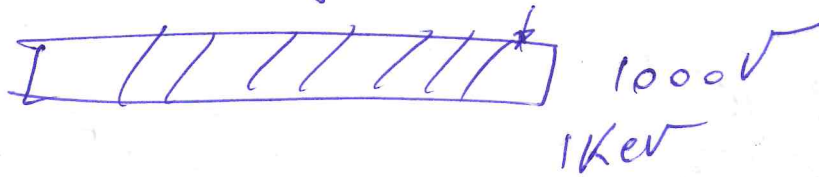
$$0.06 \times 10^{-8}$$

$$0.6 \times 10^{-9}$$

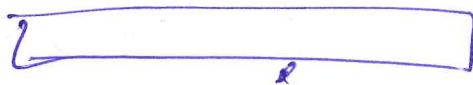
=



$$\frac{0.3 \times 10^{-10} \text{ s}}{2 \times 10^{-3} \text{ s}}$$



$$\frac{0.3}{2} \times 10^{-7} \text{ s}$$



$$1 \text{ eV} \quad 0.15 \times 10^{-7} \text{ s}$$

$$15 \times 10^{-9} \text{ s}$$

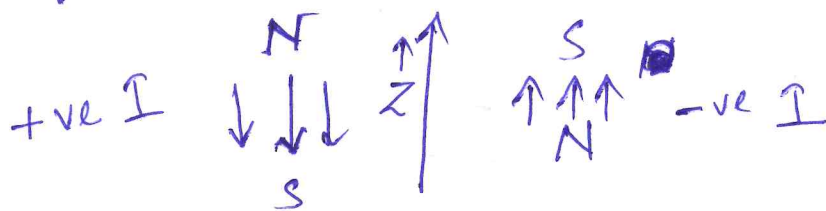
15 ns



With respect to the External TR. (laser) we see the signal at  $\sim 45$  ns.

We checked with a magnet.

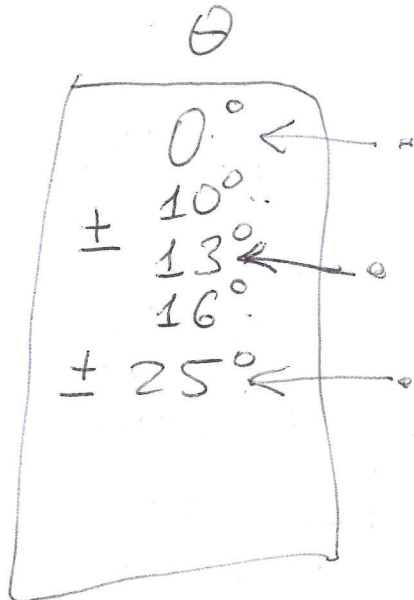
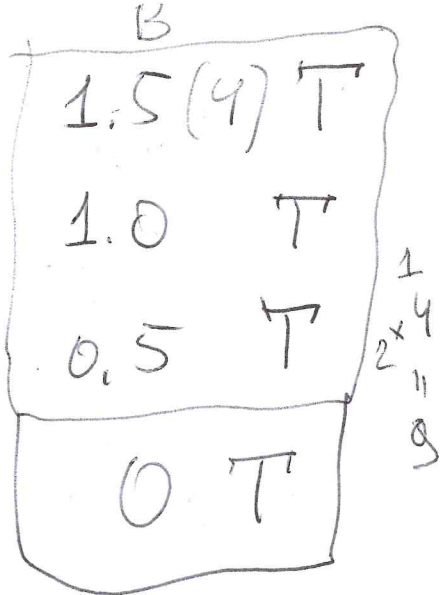
With +675 A the field lines go from UP to Down.



I (A)	<del>B<sub>HP</sub> (kG)</del>	B <sub>HP</sub> (kG)	B <sub>NMR</sub> (T)
+ 675	<del>1.49</del>	- 13.73, - 1.38, + 2.862, + 14.09	1.399
600			
550		- 13.013, - 1.2823, + 2.713, + 13.354	1.327
450		- 11.312, - 1.087, + 2.355, + 11.605	1.153
350		- 9.051, - 0.847, + 1.879, + 9.280	0.923
400		- 7.272, + 6.108, + 4.207, + 10.384	1.042
300		- 7.396, - 3.014, + 0.3213, + 7.992	0.793

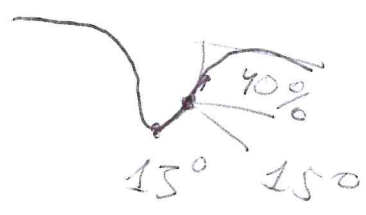
I (A)	B <sub>HP</sub> (kg)	B <sub>NMR</sub> (T)
250	-6.167 -2.543 +0.265 +6.673	0.663
200	-4.934 -2.038 +0.211 +5.342	0.531
190	-4.686 -1.949 +0.201 +5.078	0.505
<del>185</del>		
187	-4.609 -1.922 +0.198 +4.997	0.497
		188 0.498
180	-4.438 -1.853 +0.191 +4.812	0.479
150	-3.703 -1.546 +0.159 +4.015	0.400
120	-2.954 -1.2683 +0.126 +3.217	X

x4



⑦

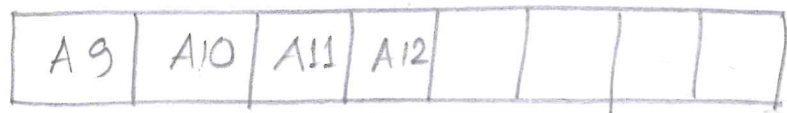
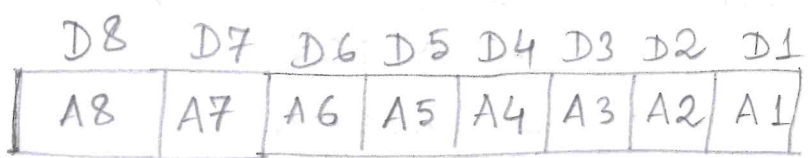
10  
13  
16



4x9x3

Do we want  
B↑ vs. B↓

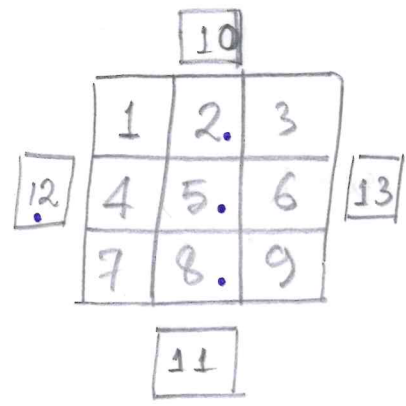
$\left\{ \begin{array}{l} 875 \\ 925 \end{array} \right\} + 50$   
950 ← unstable?



D9 D10 D11 D12

A → Amplifier

D → Digitizer



I (A)	$B_{HP}$ (kg)	$B_{NMR}$ (T)
-189	<del>68.7</del> - 0.0688 + 4.962 - 0.324 + 4.976	0.497
-200	- 0.074 + 5.254 - 0.344 + 5.267	0.527
-250	- 0.097 + 6.541 - 0.430 + 6.565	0.655
-300	- 0.120 + 7.837 - 0.515 + 7.866	0.784
-350	- 0.141 + 9.107 - 0.596 + 9.133	0.915
<del>-360</del>		
-380	<del>-152</del> - 0.152 + 9.846 - 0.639 + 9.867	0.991
-385	- 0.153 + 9.962 - 0.646 + 9.985	1.003



I (A)	$B_{HP}$ (kg)	$B_{NMR}$ (T)	⑨
-400	- 0.159 + 10.312 - 0.666 + 10.335	1.038	
-450	- 0.335 + 11.382 - 0.995 + 11.428	1.147	
-550	- 0.615 + 13.081 - 1.169 + 13.147	1.322	
-600	- 0.635 + 13.791 - 1.234 + 13.861	1.396	
-650	- 0.668 + 14.406 - 1.289 + 14.479	1.461	
-675			

# Laser power

(10)

Intensity  $\lambda$   
2.6 1.0 = Runs. 1-9 (4-tested)

1.6 (rotating back to 0) 0.29 = Run. 10

1.2 0.0020 = Run. 11

1.4 0.028 = Run. 12

Pulse  $\rightarrow$  2 kHz

Run No.	start time	Finish time	Intensity
13	10:48	10:49	1.5

Run. 14  
10k Events 1.45

Run 15	11:20 - 11:22	5.58%	1.45
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10k Events

12:17 ~~off~~ Turning off the HVs  $\rightarrow$  Buffer installed

12:49 " " ON " " 200-500-5V

12:57 200-875-50V

Run 16

$Q_{spe}$  2.51 pC  $\rightarrow$  2.48 pC  $\rightarrow$  2.53  $\pm$  0.05 Run 15  $\rightarrow$  Run 16  
 $\sigma$  0.23  $\rightarrow$  0.25 0.23

Key about B	V <sub>MCP</sub>	ANGLE	V <sub>PL</sub>	V <sub>transfer</sub> (11)
0 0	875	0	- Run. 2Z.	D <sub>SPE</sub> = 3,412 PC
- 0,5	875	"	-	
	925	"	-	
1,0	875	"	-	
	925	"	-	
	950	"	-	
	975	"	-	
1,5	925	"	-	
	950	"	-	
	975	"	-	
	1000	"	-	
	975	"	-	
0	875	"	50 → 100	
0	900	"	10	

+ 0,5 875 0 -  
 925 -

+ 1,0 875 -  
 925 -  
 975 -

+ 1,5 875 -  
 925 -  
 975 -

~~Run No. B Config. 200-875-50V~~

Run No.	I (A)	B <sub>NMR</sub> (T)	B <sub>HP</sub> (kg)
22	0	0	0
23	-190	<del>0</del> 0.503	5.051
24	-385	1.006	10.90
25	-675		14.962
26	"		"

200-925-50V

975 → Not stable

27 " "

200-950-50V

28 " "

200-975-50V

23/3/24

(29) 200-875-100V B=0

← (30) 200-875-50 B=0

(31) 200-900-20V B=0

\* \* Here the resolution of the PC current has been changed from high to low

(32) 200-825-50V B=4.0T (-)

(33) 200-875-50 B=-1.0T

HV. Trip!

(34) 200-975-50 B=-1.0T

35 200-875-50 B+0.5T 0°

36 200-825-50 " "

37 200-825-50 B+1.T "

38 200-875-50 B+1.T "

39 200-875-50 B+1.T "

40 200-875-100 B+1.T "

41 200-875-50 B+1.5T "

42 200-825-50 B+1.5T "

43 200-875-50 B+1.5T "

44 200-875-100 " "

45 200-825-100 B+1.5T "

46 200-875-125 B+1.5 "

I = -190 A B<sub>HP</sub> = ~~0.498T~~ 0.495T

200-825-50V

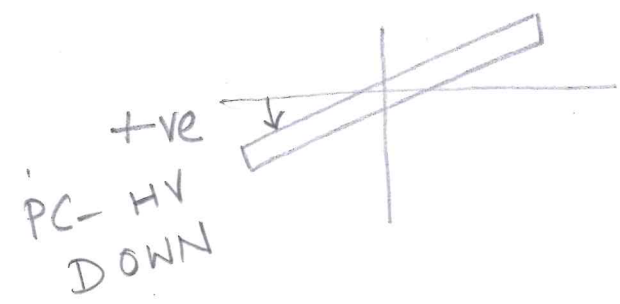
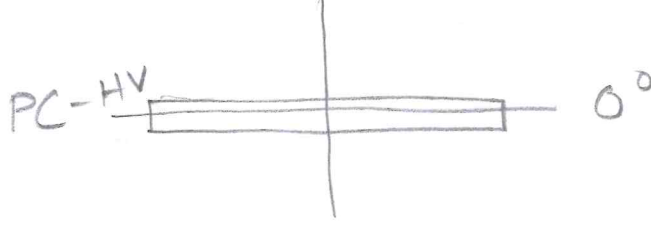
47

200-875-50V

B=0, HV OFF



(14)



PC-HV DOWN [+]  
PC-HV UP [-ve]



HV ON [12:10]

200-875-50V

$I = 0$  A,  $B_{HP} = 0$

(48)

200-875-50V;  $I = -190$  A;  $B = 0.5$  T

$B_{HP} = +0.4962$  T

(49)

200-925-50V;  $I, B$  same as before  
0.79 3.9%

(50)

HV nominal,  $B \rightarrow$  OFF Lunch break

HV nominal  $B \rightarrow$  ON

200-875-50V

$I = -385$  A

$B = 1.0$  T

$B_{HP} = +0.9954$  T

(51)

200-925-50V

$B$  same as before

(52)

200-975-50V

B same as before

(15)

(53)

200-975-50V

I = -675 A B = 1.5 T

$B_{HP} = +1.481 T$

(54)

0.41 3.0%

200-925-50V

I, B same as before

(55)

0.

200-875-50V

I, B same

(56)

gain  $\rightarrow 0$   
gain 0 or ~~0~~  
didn't collect?

1 event  $\left( \frac{1}{113.727} \right)$

200-875-150V

I, B same

(57)

200-875-200V

I, B same

(58)

200-925-150V

I, B same

1%.

(59)

200-925-200V

I, B same.

(60)

$\rightarrow PC \rightarrow 50V$   
~~200~~ 400-925-50V

(61)

better efficiency

200-925-200-925-400-925-50V  
first MCP

0.5%

(62)

# Flipping Current

We will take the rest of data with -ve I, (16)  
~~DB~~ +ve B.  $\uparrow\uparrow\uparrow$   
 same as MNP17  
 only at  $+13^\circ$  or  $-13^\circ$  we will take with both +I and -I

200-875-50V

B = 0

I = +190 A; B = -0.5 T

$B_{HP} = -0.4946 T$

(63)

0.88      3.853%

200-925-50V

I, B same as before

~~3.853%~~

(64)

200-875-50V

I = 385 A, B = 1 T,  $B_{HP} = 0.9979 T$

(65)

200-925-50V

I, B same

(66)

200-975-50V

I, B same.

(67)

200-975-50V

I = 1675 A, B = -1.5 T,  $B_{HP} = +1.480 T$

(68)

A 20-25% rise in G compared to (54)

0.499 pC      3.23% → eff. ~ same (54)

200-925-50V

I, B same

(69)

200-875-50V

I, B same.

(70)

200-975-150V

I, B same

(71)

PC → 50V, B = OFF, started to trip as we forgot to go down to 875 @ B=0

200-975-50V

I, B flipped

$B_{HP} = -1.483 T$

(72)

(for cross-checking)

3%

0.41 pC with a first peak at lower value. → second peak

PC → 150 V

200-975-150V

I, B same. (I → -ve)

(17)

(73)

0.45

PC → 200 V

200-975-200V

(74)

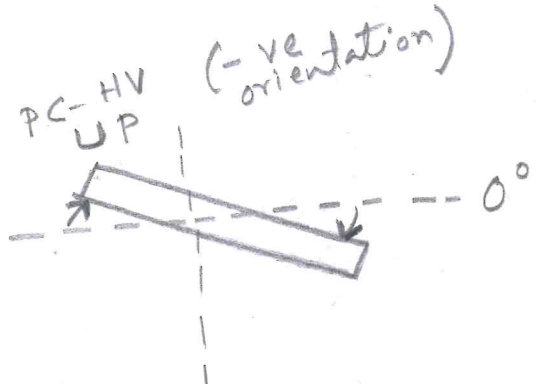
Nominal voltages

B OFF

HV OFF

Flipping in angle

$-23^\circ$



Bottom to edge 49.45 mm

↳ ground of the base

HV ON (nominal)

We expect higher efficiency

[+23° eff. was 6%]  
B=0

200-875-50V

B = 0

5.8%

(75)

3.3 pC

200-875-50V

I = -190 A, B = +0.5 T

0.76 pC

~~5.8%~~ 5.66%

B<sub>HP</sub> = 0.4971 T

(76)

200-925-50V

I, B same

5.6

(77)

200-925-50V

I = -385 A, B = +1.0 T

B<sub>HP</sub> = 0.9945 T

(78)

200-975-50V

tripped - No X  
" again.

200-925-50V

200-950-50V

OK.

~~975~~

200-975-200-975-200-950-50V tripped

200-875-50V

I, B same

(79)

200-875-50V

I = -675 A, B = +1.5 T

B<sub>HP</sub> = 1.474 T



200-925-50V

B, I same

(81)

200-975-50V

(82)

5.4% 0.65 fC

After ~15min (data analysis time) it tripped.  
(No X)

200-950-50V

(83)

200-950-150V

(84)

PC → 50V

200-950-50V

I = -385A; B = +1.0 T

B<sub>HP</sub> = +0.9984

(85)

1.15 fC

6%

\* Go to nominal biasing before going down/  
\* turning off the field \*\*

200-875-50V

B = 0

HV OFF, LASER OFF

$\alpha = -13^\circ$

bottom to edge 76.20 mm.

HV ON, Laser ON

200-875-50V

B = 0

5.9%

3.41 fC

(86)

200-875-50V

I = -190A  
B = 0.5 T

B<sub>HP</sub> = 0.496 T

(87)

200-925-50V

I, B

6.5%

1.64 fC

(88)

200-925-50V

I = -385A

B<sub>HP</sub> = +0.9917

B = + ~~0.5~~ 1.0 T

(89)

200-975-50V

tripped

200-950-50V

I, B same

(90)

200-875-50V

I, B same

(91)

200-875-50V

I = -675A, B = +1.5 T

B<sub>HP</sub> = 1.4674 T

(92)



200-925-50V I, B same

(93)

(19)

200-950-50V I, B same

(94)

200-975-50V I, B same

(95)

200-975-150V I, B same

(96)

200-950-150V

(97)

nominal HV, B = 0, Laser OFF

24/03/2024

b HV and laser off  
bottom to edge 78.70 mm

$\alpha = +13^\circ$

HV ON [8:44 am] Laser ON

200-875-50V

B=0

3.56 6.6%

(98)

200-875-50V

I = -190A

$B_{HP} = +0.4978T$

B = +0.5T

0.98 pC 5.2%

(99)

200-925-50V

same

(100)

200-925-50V

I = -385 A; B = +1.0 T

$B_{HP} = +0.9954$

(101)

200-975-50V

I, B same

1.6 pC 5%

(102)

200-875-50V

I, B same

3.5% 0.24 pC

(103)

200-875-50V

I = -675 A, B = +1.5 T

$B_{HP} = +1.479T$

0.25% 0.1 pC

In <sup>NMR</sup> Out  
1T 0.368T

(104)

200-925-50V

I, B same

3.16% 0.21 pC

(105)

200-975-50V

I, B same

4.5% 0.73 pC

with discharge

200-975-150V  $B = +0.5 T$  5.7% 0.81 pC (20)

(107)

300-975-150V 6% 0.96 pC

(108)

200-875-50V ~~0.2%~~

(109)

B OFF, HV OFF

$\alpha = -15^\circ$

log ON 10:47

200-875-50V

(110)

$B = 0$  5.8% 3.37 pC

200-875-50V

(111)

Screenshot missing

$I = -190 A$ ;  $B_{HP} = 0.4962 T$   
 $B = +0.5 T$  5.5%, 0.68 pC

200-925-50V

(112)

$I, B$  same

$I = -385 A, B = +1 T$   $B_{HP} = 0.9931 T$

200-925-50V

(113)

200-975-50V

(114)

$I, B$  same  
mod stable

200-950-50V

(114)

$I, B$  same

2.9%, 0.16 pC

200-875-50V

(115)

$I = -675 A, B = +1.5 T$   $B_{HP} = 1.4716 T$

200-875-50V

(116)

200-925-50V

(117)

4.6% 0.52 pC

200-975-50V

(118)

$I, B$  same 5.5% 0.60 pC

200-975-150V

(119)

200-950-50V

(120)

Nominal voltage, HV OFF, B OFF

$\alpha = -10^\circ$

5.9% 3.37 pC

200-875-50V

(121)

$B = 0$

200-875-50V  
122

$I = -190 A; B = +0.5 T$

$B_{HP} = 0.4956 T$   
12.2% 0.73 pC

200-925-56V

I, B same

6.3% 1.48 pC

21

123

200-925-50V

I = -385 A B = +1.0 T

B<sub>HP</sub> = +0.9920 T

124

200-975-50V → not stable

6.3% 1.05 pC

200-950-56V

125

B same

4.7% 0.22 pC

200-875-50V

126

200-875-50V

I = -675 A

B<sub>HP</sub> = +1.4702 T

127

B = +1.5 T

0.5% 0.1 pC

200-925-50V

128

B same

0.214 pC 1.15%

200-950-56V

129

200-975-50V

130

200-975-150V

131

HV OFF → B OFF

α = +15°

6.1% 3.66 pC

200-875-50V

132

B = 0

0.96 pC 4.5%

200-875-50V

133

I = -190 A, B = +0.5 T

B<sub>HP</sub> = +0.4975 T

200-925-50V

134

B same

2.16 pC 4.9%

200-925-50V

135

I = -385 A, B = +1.0 T

B<sub>HP</sub> = +0.9952 T

200-975-50V

136

B = 1.0 T

1.52 pC 4.7%

200-875-50V

137

I = -675 A, B = +1.5 T

B<sub>HP</sub> = +1.4758 T

200-875-50V

138

200-925-50V

139

200-975-50V

140

200-975-150V

141

Nominal, B OFF, HV OFF

α = +10°

v ON  
0-875-56V

B = 0

142



From 166 to 176.

[P-01]

Inclination =  $+27^\circ$

177	STD	B = 0		
178	STD	+0.5T	B = 0.4978	I = -190A
179	925	+0.5T	B = 0.4978	I = -199A
180	925	+1.0T	B = 1.0014	I = -387A
181	975	+1.0T		
182	875	+1.0T		
183	875	+1.5T	B = 1.496	I = -675A
184	925	+1.5T		
185	975	+1.5T		
186	975/150PC	+1.5T		

~~526~~

$\alpha = -13^\circ$

B flipped

RunNo.	$\Delta V$ (MCP-PC)			
187	STD	B = 0	Q = 3.45 pC	$\lambda = 5.5\%$
188	"	I = 190A, B = -0.5T		$B_{HP} = 0.4541$
189	925V	B same		
190	925V	I = +385A B = -1T		$B_{HP} = 0.992$
191	950V	B same		Q = 0.94 pC $\lambda = 5.4\%$
192	875V	"		
193	"	I = +675A B = -1.5T		$B_{HP} = 1.4718T$
194	925V	"		
195	950V	"		
196	975V	"		
197	975-150V	"		

198	Nominal HV, 975-50V	I = 0, I = -675 A B = +1.5 T		$B_{HP} = 1.4825T$ (II)
199	975-150V	"		
200	950-50V	"		
201	950-50V	I = -385A; B = +1.0T	5.7% 0.96 pC	$B_{HP} = 1.0015T$ (II)
202	925-50V	"	0.67 pC 5.3%	
203	925-50V	I = -190A, B = +0.5T		

Lunch break

Nominal HV, B OFF

DCR measurements started.

Discriminator module N417 CAEN does not work properly. It has been checked using one detector signal in fan-in fan-out IN and ~~the~~ three "OUT"s from fan-in fan out in scaler counter.



$$\alpha = +27^\circ$$

$$\text{Int. } 1.45$$

27/03/2024 (1)

Run No.	$\Delta V$	I	B	$Q_{SPE}$	$B_{HP}$
215	STD	$B=0$		3.6 pc	$\lambda=4.7\%$
216	STD	$+150 A, -0.5 T$			
217	925	$+150 A, -0.5 T$			
218	925V	$-150 A, +0.5 T$			
219	STD	$+385 A, -1.0 T$			
220	925V	$+385 A, -1.0 T$			
221	975V	$1.0 T$			
222	975V	$+675 A, -1.5 T$			1.505 T
223	975-150V	"			
224	925-50V	"			
225	875V	"			

09:25 Around this time there was a power cut.

226	975-50V	$-675 A, +1.5 T$			$0.33 \text{ pc } 1.8\%$
-----	---------	------------------	--	--	--------------------------

Nominal HV, B OFF.

$$\alpha = -27^\circ$$

B - flipped

227	STD	$B=0$			
228	STD	$B=0$			
Repeat to keep the intensity fixed for all measurements at $-27^\circ$					
229	STD	$I = +150 A,$ $B = -0.5 A$			
230	925	"			
231	"	$I = +385 A$ $B = -1.0 T$			
232	925	$I = 675 A$			
233	950	"			
234	975				

→ Eraldo came, we redo the time resolution tests

Run No.	$\Delta V$	I/B
235	975-150V	$I = 675 A$ $B = -1.5 T$
236	STD	$I = 675 A$
237	"	$I = 385 A$
		$\alpha = -13$ $I -ve$ $B = 0$
238	"	$B = 0$
239	"	$I = -150, B = +0.5 T$
		Power Shock.
239	"	$I = -150 A$ $B = 0.5 T$
		$3.9\%$ $0.72 \mu C$ Pulser freq 1.5 kHz
240	925	"
241	925	$I = -385 A, B = +1.0 T$
242	875	"
243	950	
244	950	$I = -675 A, B = +1.5 T. B_{HP} = 1.4969 T$
245	925	
246	875	
247	975	
248	975-150V	Nominal HV, $B = 0, B = +675 A$ $\alpha = -13$ $I +ve$
249	975-150V	$I = +675 A$ $B_{HP} = 1.4983 T$
	<del>975-50V</del>	
250	975-150V	$I = +385 A. B_{HP} = 1.007 T$
251	950-50V	
252	925V	$I = +150 A. B_{HP} = 0.502 T$
253	STD	$I = 0, B = 0$

Patch Panel UP +ve

27/3/2024

" azimuthal " DOWN -ve

(3)

~~Ostroginal~~ Orientation

$\theta_a = +18^\circ$

geolog  $\rightarrow$  14.43

Run No.

Run 254 STD B=0

Run 255 " I=-190A, +0.5T B<sub>HP</sub>=0.501T

Run 256 925 "

257 STD I=-385A, B=1.0T B<sub>HP</sub>=0.957T

258 925 "

259 975 XOX UP for a while "

" relaunched

260 875 I=-675A  $B_{HP} = 1.306T$   
sitting partly outside

261 925 "

262 975 "

263 975-150V "

$\theta_a = +18$

B - flipped I +ve

264 925V-875V I=+190A

265 975V I=+385A

266 975V I=+675A

267 975-150V "

HV Nominal, B=OFF, HV OFF

$$\theta_a = -18^\circ$$

geolog → 15:50

27/3/2024  
④

$$I -ve$$

Run No.	$\Delta V$ (V)	I
268	STD	0
269	"	-190A
270	925	"
271	<del>STD</del> 925	I = -385A
272	975	<del>I = -675A</del> "
273	875	"
274	875	I = -675A
275	925	"
276	975	"
277	975-150	"

$$\theta_a = -18^\circ$$

$$I -ve$$

278	925	I = +190A
279	975	+385A
280	975	+675A
281	975-150	"

OVP/OVV in PC for 1/2 sec.

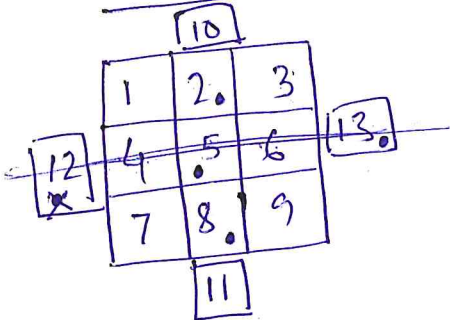
200 - 875 - 50V  
 (193)

$I = +675A$   
 $B = -1.5T$

$B_{HP} = 1.4718T$

DARK RATES

25/03/2024



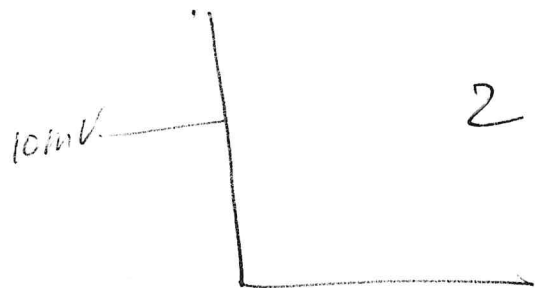
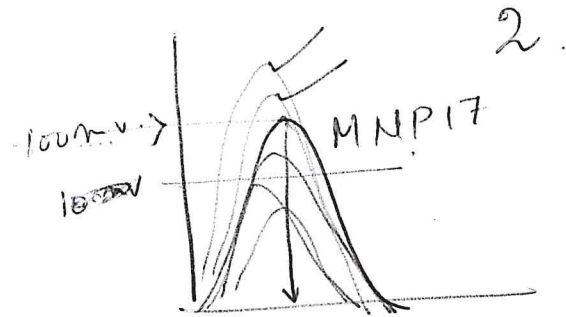
2, 5, 8, 13

- Ch 5 ✓
  - 2 ✓
  - 8 ✓
  - 13 ✓
- 4

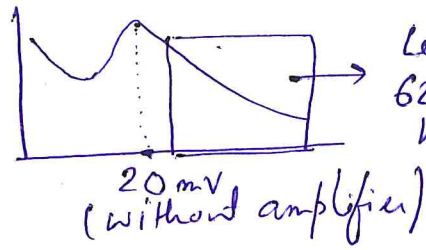
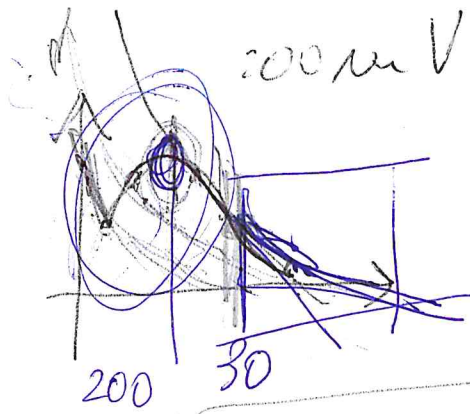
No ringing pattern.

1	5
2	2
3	8
4	<del>13</del> 4
scale	Det.
ch.	ch.

- scope channel.  
1GHz / 200MHz.
- Gate delay module  
width 5ns.
- Misha's distribution  
right edge 600mV.  
→ Now we are before  
amplifier. so, 60mV







ledroy  
620 CL is working  
here [-30mv to ...]

OB	875,50	<del>925,</del>
1.5 B	$\alpha = 0, \pm 13 \pm 23$	975,50

26/3  
16:50 15:50

① STD vol.  $\alpha = -13$ .  $B = 0$  without amplifier

III  
A 17:33

Amplifier ② 975  $\alpha = -13$   $B = 1.5 T$

③ 975  $\alpha = +13$   $B = 1.5 T$

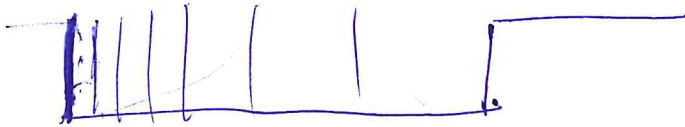
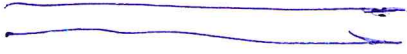
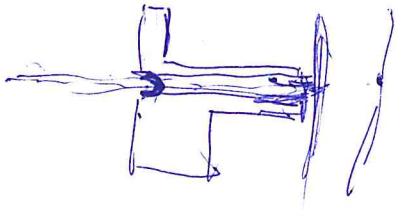
④ 975  $\alpha = +27$  Fibr outside  
PCHV B

⑤ 975  $\alpha = -27$  " PCHVU

⑥ STD  $\alpha = 0^{\circ}$

17:33 26/3

17:53 26/3



st

