

COMPASS Polarized Target

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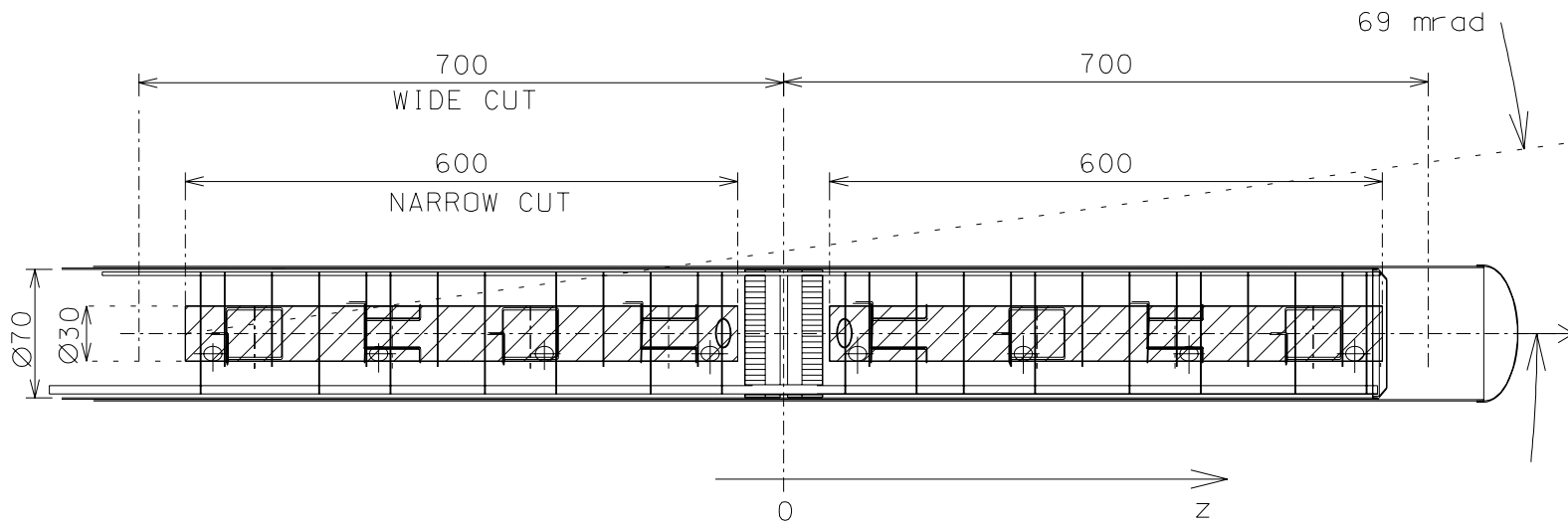
1. Target material weight
2. Geometrical cuts
3. Elements
3. Polarization 2002 - 2003



Material weight 2003 (2002)

Upstream	Downstream
$m = 172.1 \pm 2.5 \text{ g} (165.8 \pm 2.4 \text{ g})$	$178.1 \pm 2.5 \text{ g} (181.1 \pm 2.4 \text{ g})$
$V = 413 \pm 5 \text{ cm}^3 (411 \pm 5 \text{ cm}^3)$	$416 \pm 5 \text{ cm}^3 (413 \pm 5 \text{ cm}^3)$
$PF = 0.508 \pm 0.027 (0.492 \pm 0.026)$	$0.522 \pm 0.027 (0.535 \pm 0.027)$

Target cuts



Material narrow cut 2003 (2002)

	mass [amu]	up [mol]	down [mol]
H	1.00794	0.11 (0.10)	0.11 (0.11)
D	2.0140	21.23 (20.45)	21.97 (22.34)
³ He	3.0169	0.7 ± 0.2	0.7 ± 0.2
⁴ He	4.0026	6.8 ∓ 0.3	6.6 ∓ 0.3
⁶ Li	6.0151	20.44 (19.69)	21.15 (21.50)
⁷ Li	7.0160	0.90 (0.87)	0.93 (0.95)

C, Cu, F, Ni total less than 0.05 mol

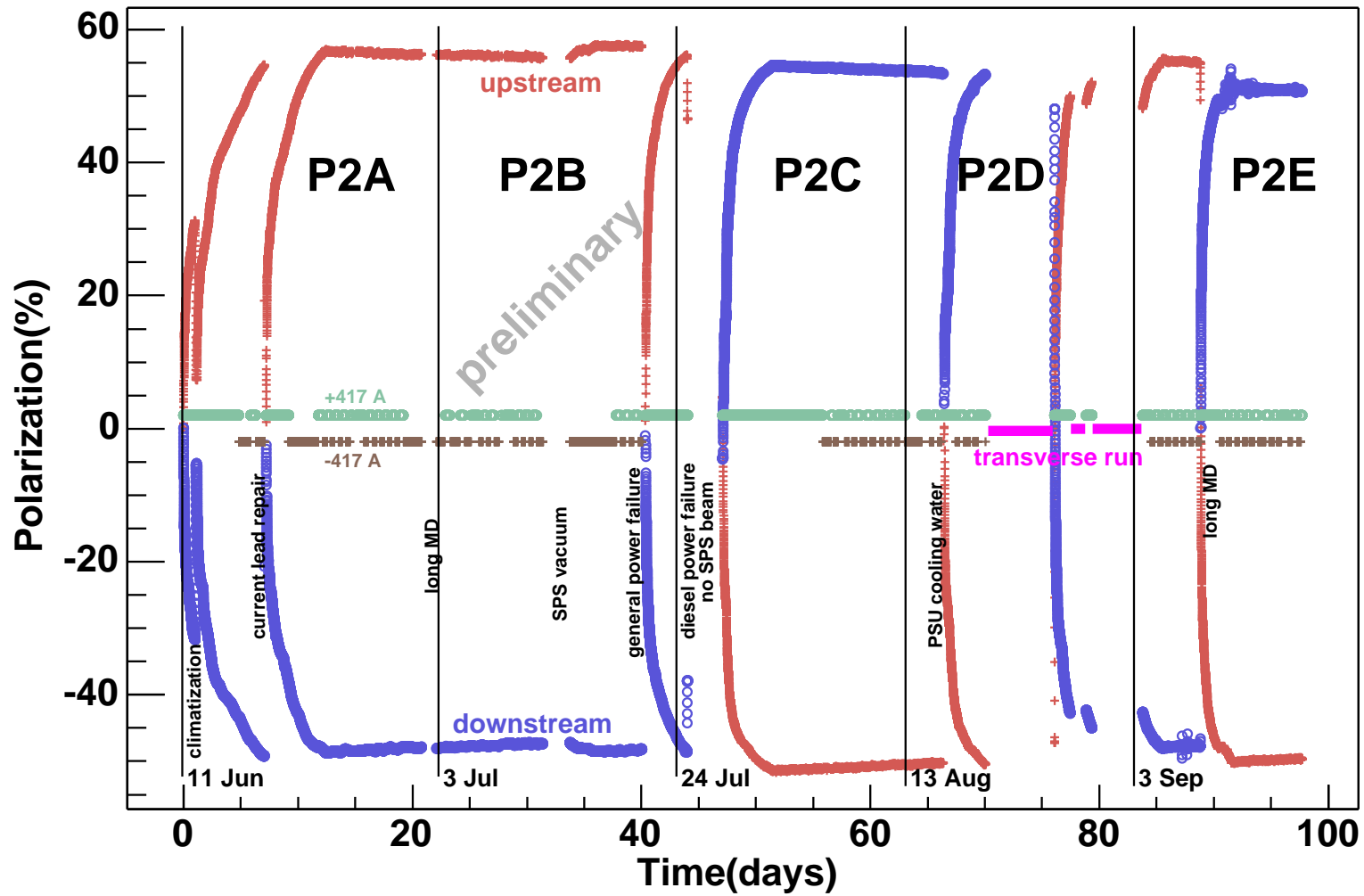
Material for NMR 2003

Element	spin	mass [amu]	γ [MHz/T]	[mol]	[%]
H	1/2	1.00794	42.2957	0.1	0.2
D	1	2.0140	6.53600	21.4	42.4
³ He	1/2	3.0169	32.4343	0.7	1.4
⁴ He	0	4.0026	-	6.8	13.3
⁶ Li	1	6.0151	6.26561	20.6	40.8
⁷ Li	3/2	7.0160	16.5467	0.9	1.8
Total				50.5	100
e-	1/2		27 992.5		

inside one NMR coil about $15\% \cdot 50.5 \text{ mol} = 7.8 \text{ mol}$

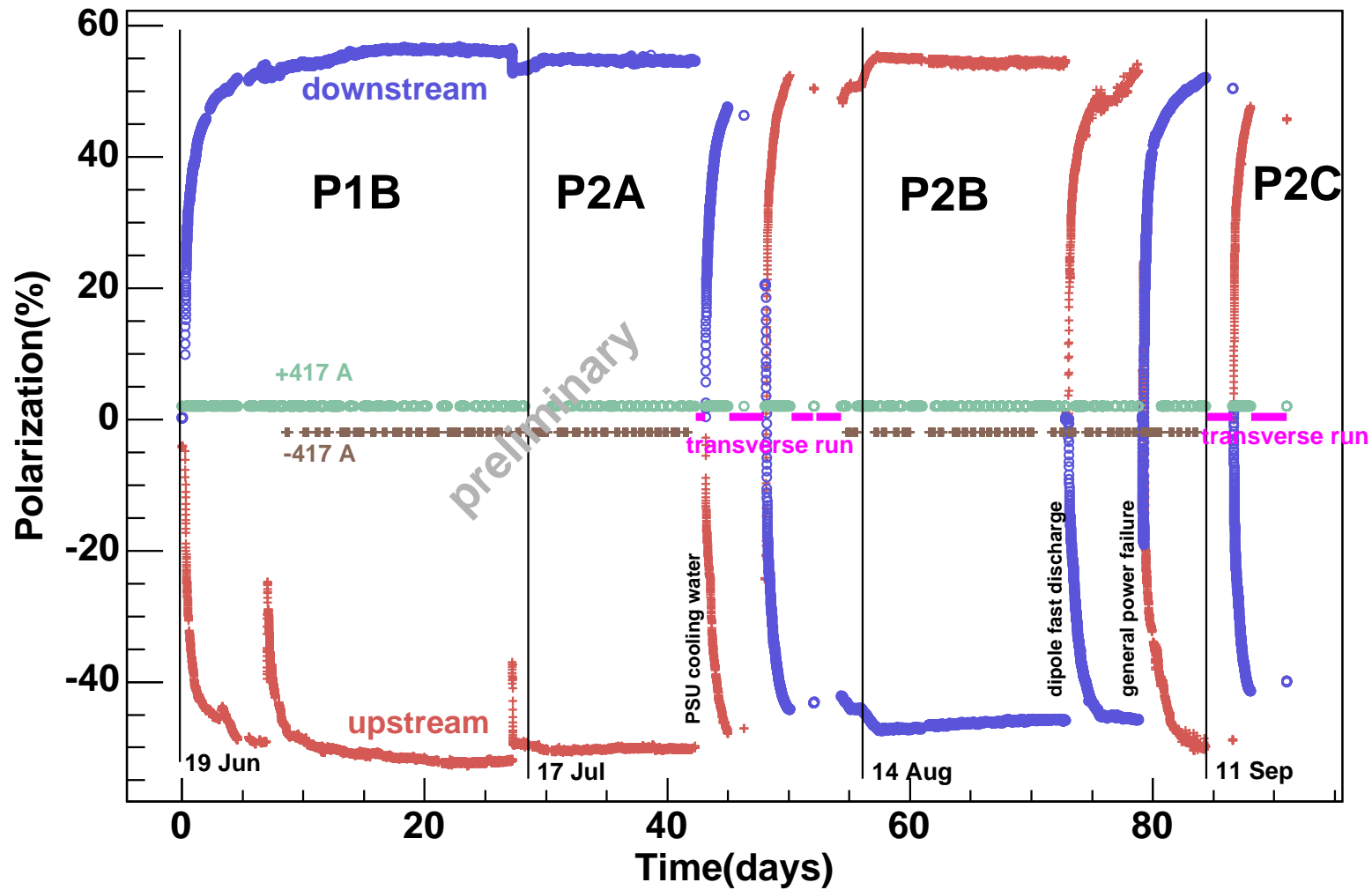


Run 2003



Run 2002

2002 polarization 19 June - 18 September



Polarization data 2003

Unix time	ups pol (%)	dws pol (%)	magn current
1055333829	0.0863543	0.0957206	+
1055334131	0.108065	0.0614459	+
1055334433	0.0430027	0.100822	+
1055334662	0.133937	-0.650764	+
1055334783	-0.071956	-1.27001	+
1055334905	-0.00363317	-1.76301	+
1055335027	0.814937	-2.22398	+
1055335148	1.77071	-2.74571	+
1055335269	2.52831	-3.34638	+

