

CAFe run plans: 02/24/2022

Dien, Carlos, Holly, Florian

Kinematic settings:

Ebeam (GeV)	E' (GeV)	θ_e Degree	$ P_p $ GeV	θ_p Degree	Pm GeV	Q2_center
10.6	8.55	8.3	1.325	66.4	0.4	2.1
10.6	8.55	8.3	1.820	48.3	0.15	2.1

Target information used in calculation

Target	Max current (uA)	Areal Density (g/cm ²)
D2	80	1.67
Ca40	80	0.8
Ca48	80	0.8
Fe54	35	0.2768
C12	80	0.5244
Be9	80	0.978
B10	80	0.5722
B11	80	0.6344

Run plan 1: Using this target information + Maximum current = 80 uA

Run plan 2: ⁵⁴Fe 3x - Thickness + Maximum current = 80 uA

Run plan 3: ⁵⁴Fe 3x - Thickness + Maximum current = 60 uA

Initial Run plans

- Beam setup/checkout/MF kinematics
- Calibration (BCM, boiling?, Optics, hydrogen?)
- SRC kinematics (HMS move and magnet change)
- SRC kinematics checkout
- Overall target changes (MF and SRC)

4h PAC
4h PAC
2h PAC
2h PAC
2h PAC

Com + Calib Time
14 PAC hours
+ MF data taking
7 PAC hours

Run plan (PAC hour): SRC data taking (75 PAC hours)

Target	Plan1 (PAC hour)	Plan1 #Event	Plan2 (PAC hour)	Plan2 #event	Plan3 (PAC hour)	Plan3 #event
D2	5	3.8k	7	5.3k	7.5	4.2k
C12	5.5	3.9k	7	5.0k	7.5	4.0k
Ca48	9	6.5k	12	8.7k	13	7.0k
Ca40	9	6.5k	12	8.7k	13	7.0k
Fe54	32	4.0k	18	6.8k	15	5.7k
Be9	3.5	4.0k	4.5	5.2k	4.5	4.0k
B10	6	4.1k	7.5	5.2k	7.5	4.0k
B11	5	3.8k	7	5.3k	7	4.0k

TOTAL: 14 + 7 + 75 = 96 PAC hours = 4 PAC days