

✓ 5. Effective thickness of S2 degrader. 6.8g/cm:

- No primary Target. SEETRAM in
 - No S1 degrader, S2 degrader: 6.8g/cm², SC21 in (2.975 mm).
 - offset: +35 mg/cm² - 120 mg/cm²
- Bp₁₂ = 8.3871 Tm Bp₃₄ = 6.1821 Tm
β₃₄ = 0.693129
Tof(SC21-SC41) = 180.851 ns
ΔE: SC21= 621.84 MeV SC41= 821.647 MeV Finger= 255.655 MeV
TPC21= 35.175 MeV TPC22= 35.412 MeV
TPC41= 35.757 MeV TPC42= 37.964 MeV
Music1= 131.481 MeV Music2= 133.394 MeV
TaDSSD = 164.456 MeV wall DSSD = 180.842 MeV wall Csl = 14482.334 MeV

✓ 6. Effective thickness of S2 degrader 8g/cm²:

- No primary Target. SEETRAM in
 - No S1 degrader, S2 degrader: 8g/cm², SC21 in (2.975 mm).
 - offset: +35 mg/cm² - 94 mg/cm²
- Bp₁₂ = 8.3871 Tm Bp₃₄ = 5.7449 Tm
β₃₄ = 0.6663192
Tof(SC21-SC41) = 188.128 ns
ΔE: SC21= 621.84 MeV SC41= 273.797 MeV Finger= 271.754 MeV
TPC21= 37.364 MeV TPC22= 37.682 MeV
TPC41= 38.160 MeV TPC42= 41.330 MeV
Music1= 140.503 MeV Music2= 143.184 MeV
TaDSSD = 181.32 MeV wall DSSD = 208.613 MeV wall Csl = 11341.335 MeV

✓ 7. Effective thickness of Ta #35.: Go only to S2. Effective thickness = 2505 mg/cm²

- Primary Target: #35 → Be 2511 mg/cm²
 - No S1 degrader, no S2 degrader, SC21 in (3.1 mm).
- Bp₁₂ : 7.7401 Tm

✓ 3. Effective thickness of S1 degrader: Go only to S2

Already calibrated. just a check

- No primary Target. SEETRAM in
 - S1 degrader: 2g/cm², no S2 degrader, SC21 in (2.975 mm).
 - offset: 75 mg/cm²
- Bp₁ = 8.3871 Tm Bp₂ = 7.8837 Tm Bp₃₄ = 7.6286 Tm
β₃₄ = 0.7646673

TPC41= 27.283 MeV TPC42= 30.471 MeV
 Music1= 100.861 MeV Music2= 103.487 MeV
 TaDSSD =136.546 MeV WallDSSD = 170.662 MeV CslWall = 5802.655 MeV
 Rates: S1 slits: +/- 13, S2 slits +/- 40. S2 rate = 9.2×10^5
 S3 slits open, S4 slits +/- 35. S4 rate = 3.6×10^4

With $1e8$ pps, S1 slits open, S2 slits open rate is $3.3e6$ pps.
 with open slits at S4, rate is $3.7e4$ pps

11. Production of ^{46}Cr *PreSPEC AGATA - Ref 2014 - ^{46}Cr - Final. lpp*

- Primary Target (Target 2): #35 \rightarrow Be 2511 mg/cm² nominal.
 - S1 degrader: 2 g/cm² nominal
 - S2 degrader: 5.7 g/cm² nominal.
- Achromatic angle: -9.92 (LISE++) We are using this one.
 Monoenergetic angle: -16.06 (LISE++)

$Bp_1 = 7.1603$ Tm $Bp_2 = 6.6917$ Tm $Bp_{34} = 4.6943$ Tm
 $\beta_{34} = 0.6193156$
 ToF (SC21-SC41) = 202.409 ns
 ΔE : SC21= 503.084 MeV SC41= 763.569 MeV Finger= 223.185 MeV
 TPC21= 30.666 MeV TPC22= 31.003 MeV
 TPC41= 31.6 MeV TPC42= 35.645 MeV
 Music1= 116.781 MeV Music2= 120.102 MeV
 TaDSSD =161.099 MeV WallDSSD = 212.016 MeV CslWall = 5420.202 MeV
 Rates: S1 slits: open, S2 slits open. S2 rate = 1.2×10^4
 S3 slits open, S4 slits +/- 35. S4 rate = 1.9×10^1

With $1e8$ pps,
 with open slits at S4, rate is $9.4e1$ pps

12. Production of ^{46}V *PreSPEC AGATA - Ref 2014 - ^{46}V - Final. lpp*

- Primary Target (Target 2): #35 \rightarrow Be 2511 mg/cm² nominal.
 - S1 degrader: 2 g/cm² nominal
 - S2 degrader: 6.8 g/cm² nominal.
- Achromatic angle: -11.62 (LISE++) We are using this one. -11.61
 Monoenergetic angle: -19.16 (LISE++) -18.6

$Bp_1 = 7.4949$ Tm $Bp_2 = 7.0495$ Tm $Bp_{34} = 4.8167$ Tm
 $\beta_{34} = 0.6129545$
 ToF (SC21-SC41) = 204.957 ns
 ΔE : SC21= 459.409 MeV SC41= 714.661 MeV Finger= 209.365 MeV
 TPC21= 28.741 MeV TPC22= 29.059 MeV
 TPC41= 29.604 MeV TPC42= 33.3 MeV
 Music1= 109.356 MeV Music2= 112.396 MeV

TaDSSD = 150.184 MeV WallDSSD = 194.528 MeV CsIWall = 5439.858 MeV
Rates: S1 slits: -50 30, S2 slits open. S2 rate = 8.6×10^5
S3 slits open, S4 slits +/- 35. S4 rate = 7.9×10^3

With $1e8$ pps, S1 slits open, S2 slits open rate is $1.4e6$ pps.
with open slits at S4, rate is $1.3e4$ pps

Main contaminants ^{57}Ni , ^{56}Co are at +S1 (LISE++)