Day 1 beams from the SPIRAL upgrade

2016.25.02

Beams from the VADIS source coupled to a 1.2kW graphite target

Notes:

- Relatively intense beams of F have not been included in this list as an intensity check should be done to get reliable data.
- The intensity of isomeric beams will depend on the projectile and reaction mechanism in a way that is difficult to predict. An intensity check is also advisable before experiments aiming at using these beams.

Please contact us if you wish to submit a proposal of experiment using a Fluor or isomeric beam for examination at the upcoming Program Advisory Committee meeting.

Isotope	T1/2	In tgt yield (pps)	I1+ (pps)	Behind CIME (pps)	Q	Emoy AMeV	Emin AMeV	Emax AMeV	Stable beam	Power kW	E AMeV
20Na	447.9 ms	3.4E+08	4.4E+06	4.5E+04	5	16.6	1.2	20.0	24Mg	1.2	95.0
21Na	22.49 s	2.4E+09	2.7E+08	2.9E+06	5	15.1	1.2	20.0	24Mg	1.2	95.0
22Na	2.6019 y	7.1E+09	8.4E+08	8.9E+06	5	13.8	1.2	20.0	24Mg	1.2	95.0
24Na	14.959 h	2.8E+09	3.4E+08	3.6E+06	5	11.6	1.2	20.0	26Mg	1.2	75.0
24Nam	20.2 ms	2.8E+09	6.3E+05	3.8E+03	5	11.6	1.2	20.0	26Mg	1.2	75.0
25Na	59.1 s	3.9E+09	4.8E+08	5.0E+06	5	10.7	1.2	20.0	26Mg	1.2	75.0
26Na	1.077 s	2.0E+08	7.3E+06	7.6E+04	5	9.9	1.2	20.0	36S	1.2	77.5
27Na	301 ms	4.6E+07	4.0E+05	4.0E+03	5	9.2	1.2	20.0	36S	1.2	77.5
28Na	30.5 ms	8.2E+06	3.4E+03	2.4E+01	5	8.5	1.2	20.0	36S	1.2	77.5
29Na	44.9 ms	1.2E+06	8.5E+02	6.8E+00	5	7.9	1.2	20.0	36S	1.2	77.5
30Na	48.4 ms	1.5E+05	1.2E+02	9.6E-01	5	7.4	1.2	18.9	36S	1.2	77.5
20Mg	90 ms	1.3E+06	1.5E+03	1.4E+01	6	20.0	1.5	20.0	24Mg	1.2	95.0
21Mg	122 ms	2.7E+07	4.5E+04	4.1E+02	6	20.0	1.4	20.0	24Mg	1.2	95.0
22Mg	3.857 s	4.6E+08	1.0E+07	1.1E+05	6	19.7	1.2	20.0	24Mg	1.2	95.0
23Mg	11.317 s	5.3E+09	1.7E+08	1.8E+06	6	18.1	1.2	20.0	24Mg	1.2	95.0
27Mg	9.458 m	1.0E+09	4.6E+07	4.9E+05	6	13.2	1.2	20.0	36S	1.2	77.5
28Mg	20.915 h	3.6E+08	1.7E+07	1.8E+05	6	12.2	1.2	20.0	36S	1.2	77.5
29Mg	1.3 s	9.6E+07	1.6E+06	1.6E+04	6	11.4	1.2	20.0	36S	1.2	77.5
30Mg	335 ms	2.0E+07	1.2E+05	1.2E+03	6	10.7	1.2	20.0	36S	1.2	77.5
31Mg	230 ms	3.6E+06	1.6E+04	1.6E+02	6	10.0	1.2	20.0	36S	1.2	77.5
32Mg	95 ms	5.2E+05	1.1E+03	9.4E+00	6	9.4	1.2	20.0	36S	1.2	77.5
33Mg	90.5 ms	4.3E+04	8.6E+01	7.6E-01	6	8.8	1.2	19.7	48Ca	0.7	60.3
23Al	470 ms	2.9E+06	8.0E+01	1.1E+00	6	18.1	1.2	20.0	36Ar	1.2	95.0
24Al	2.053 s	2.4E+07	3.9E+03	5.4E+01	6	16.6	1.2	20.0	36Ar	1.2	95.0
24Alm	131.3 ms	2.4E+07	1.6E+02	2.0E+00	6	16.6	1.2	20.0	36Ar	1.2	95.0

Isotope	T1/2	In tgt yield (pps)	I1+ (pps)	Behind CIME (pps)	Q	Emoy AMeV	Emin AMeV	Emax AMeV	Stable beam	Power kW	E AMeV
25Al	7.183 s	3.8E+08	2.8E+05	3.8E+03	6	15.3	1.2	20.0	36Ar	1.2	95.0
26Al	717 ky	7.0E+08	2.0E+07	2.7E+05	6	14.2	1.2	20.0	36Ar	1.2	95.0
26Alm	6.3452 s	7.0E+08	4.8E+05	6.6E+03	6	14.2	1.2	20.0	36Ar	1.2	95.0
28Al	2.2414 m	2.4E+09	3.5E+07	4.8E+05	6	12.2	1.2	20.0	36S	1.2	77.5
29Al	6.56 m	1.5E+09	3.8E+07	5.2E+05	6	11.4	1.2	20.0	36S	1.2	77.5
30Al	3.6 s	6.5E+08	2.9E+05	4.0E+03	6	10.7	1.2	20.0	36S	1.2	77.5
31Al	644 ms	2.1E+08	1.4E+04	1.8E+02	6	10.0	1.2	20.0	36S	1.2	77.5
32Al	31.7 ms	5.4E+07	1.1E+02	9.9E-01	6	9.4	1.2	20.0	36S	1.2	77.5
33Al	41.7 ms	1.0E+07	3.0E+01	2.9E-01	6	8.8	1.2	19.8	36S	1.2	77.5
34Al	56.3 ms	7.9E+05	3.5E+00	3.7E-02	6	8.3	1.2	18.6	48Ca	0.7	60.3
27P	260 ms	2.7E+06	1.2E+01	1.9E-01	7	17.9	1.5	20.0	36Ar	1.2	95.0
28P	270.3 ms	5.0E+07	2.5E+02	3.9E+00	7	16.6	1.4	20.0	36Ar	1.2	95.0
29P	4.142 s	4.4E+08	1.2E+04	2.0E+02	7	15.5	1.3	20.0	36Ar	1.2	95.0
30P	2.498 m	1.7E+09	4.4E+05	7.4E+03	7	14.5	1.2	20.0	36Ar	1.2	95.0
32P	14.263 d	2.6E+09	6.5E+07	1.1E+06	7	12.8	1.2	20.0	36S	1.2	77.5
33P	25.34 d	3.4E+09	9.9E+07	1.7E+06	7	12.0	1.2	20.0	36S	1.2	77.5
34P	12.43 s	3.2E+09	2.2E+05	3.7E+03	7	11.3	1.2	20.0	36S	1.2	77.5
35P	47.3 s	2.1E+09	3.4E+05	5.7E+03	7	10.7	1.2	20.0	36S	1.2	77.5
36P	5.6 s	7.0E+07	3.2E+03	5.4E+01	7	10.1	1.2	20.0	48Ca	0.7	60.3
37P	2.31 s	2.3E+07	6.3E+02	1.1E+01	7	9.6	1.2	19.4	48Ca	0.7	60.3
38P	640 ms	6.7E+06	8.8E+01	1.4E+00	7	9.1	1.2	18.4	48Ca	0.7	60.3
39P	190 ms	1.7E+06	1.1E+01	1.7E-01	7	8.6	1.2	17.5	48Ca	0.7	60.3
40P	153 ms	4.0E+05	2.3E+00	3.5E-02	7	8.2	1.2	16.6	48Ca	0.7	60.3
31Cl	150 ms	4.1E+06	2.7E+03	4.4E+01	8	17.7	1.2	20.0	36Ar	1.2	95.0
32Cl	298 ms	8.1E+07	1.3E+05	2.3E+03	8	16.6	1.2	20.0	36Ar	1.2	95.0
33Cl	2.511 s	7.5E+08	1.2E+07	2.2E+05	8	15.6	1.2	20.0	36Ar	1.2	95.0
34Clm	32 m	1.9E+09	8.0E+07	1.5E+06	8	14.7	1.2	20.0	36Ar	1.2	95.0
34Cl	1.5264 s	1.9E+09	2.1E+07	3.8E+05	8	14.7	1.2	20.0	36Ar	1.2	95.0
36Cl	301 ky	9.1E+08	4.2E+07	7.8E+05	8	13.2	1.2	20.0	40Ca	0.8	95.0
38Cl	37.24 m	3.3E+08	1.6E+07	3.0E+05	8	11.8	1.2	20.0	48Ca	0.7	60.3
38Clm	715 ms	3.3E+08	1.9E+06	3.4E+04	8	11.8	1.2	20.0	48Ca	0.7	60.3
39Cl	55.6 m	4.8E+08	2.5E+07	4.6E+05	8	11.2	1.2	20.0	48Ca	0.7	60.3
40Cl	1.35 m	2.8E+08	1.5E+07	2.7E+05	8	10.7	1.2	20.0	48Ca	0.7	60.3
41Cl	38.4 s	1.4E+08	7.1E+06	1.3E+05	8	10.2	1.2	20.0	48Ca	0.7	60.3
42Cl	6.8 s	5.8E+07	2.2E+06	4.0E+04	8	9.7	1.2	20.0	48Ca	0.7	60.3
43Cl	3.07 s	2.2E+07	5.5E+05	1.0E+04	8	9.2	1.2	20.0	48Ca	0.7	60.3
44Cl	560 ms	7.2E+06	3.5E+04	6.2E+02	8	8.8	1.2	19.8	48Ca	0.7	60.3
45Cl	400 ms	1.9E+06	6.2E+03	1.1E+02	8	8.4	1.2	18.9	48Ca	0.7	60.3
31Ar	14.4 ms	8.7E+03	1.7E+01	2.4E-01	8	17.7	1.2	20.0	36Ar	1.2	95.0
32Ar	98 ms	2.2E+05	2.3E+03	6.9E+01	8	16.6	1.2	20.0	36Ar	1.2	95.0
33Ar	173 ms	5.6E+06	8.8E+04	2.9E+03	8	15.6	1.2	20.0	36Ar	1.2	95.0
34Ar	845 ms	1.4E+08	4.4E+06	1.6E+05	8	14.7	1.2	20.0	36Ar	1.2	95.0

Isotope	T1/2	In tgt yield (pps)	I1+ (pps)	Behind CIME (pps)	Q	Emoy AMeV	Emin AMeV	Emax AMeV	Stable beam	Power kW	E AMeV
35Ar	1.775 s	2.2E+09	8.3E+07	3.1E+06	8	13.9	1.2	20.0	36Ar	1.2	95.0
37Ar	35.04 d	1.9E+09	9.1E+07	3.4E+06	8	12.5	1.2	20.0	40Ca	0.8	95.0
39Ar	269 y	4.4E+08	2.3E+07	8.5E+05	8	11.2	1.2	20.0	48Ca	0.7	60.3
41Ar	109.61 m	7.1E+08	3.8E+07	1.4E+06	8	10.2	1.2	20.0	48Ca	0.7	60.3
42Ar	32.9 y	5.3E+08	2.9E+07	1.1E+06	8	9.7	1.2	20.0	48Ca	0.7	60.3
43Ar	5.37 m	3.2E+08	1.7E+07	6.5E+05	8	9.2	1.2	20.0	48Ca	0.7	60.3
44Ar	11.87 m	1.8E+08	9.8E+06	3.7E+05	8	8.8	1.2	19.8	48Ca	0.7	60.3
45Ar	21.48 s	9.0E+07	4.9E+06	1.8E+05	8	8.4	1.2	18.9	48Ca	0.7	60.3
46Ar	8.4 s	3.5E+07	1.9E+06	7.0E+04	8	8.1	1.2	18.1	48Ca	0.7	60.3
35K	178 ms	1.6E+06	1.1E+05	2.3E+03	8	13.9	1.2	20.0	40Ca	0.8	95.0
36K	342 ms	3.4E+07	3.6E+06	7.9E+04	8	13.2	1.2	20.0	40Ca	0.8	95.0
37K	1.226 s	3.6E+08	6.4E+07	1.5E+06	8	12.5	1.2	20.0	40Ca	0.8	95.0
38K	7.636 m	1.1E+09	2.7E+08	6.3E+06	8	11.8	1.2	20.0	40Ca	0.8	95.0
38Kxm	923.9 ms	1.1E+09	1.7E+08	3.9E+06	8	11.8	1.2	20.0	40Ca	0.8	95.0
40K	1.251 Gy	1.0E+08	2.6E+07	6.1E+05	8	10.7	1.2	20.0	48Ca	0.7	60.3
42K	12.36 h	5.6E+08	1.5E+08	3.4E+06	8	9.7	1.2	20.0	48Ca	0.7	60.3
43K	22.3 h	8.0E+08	2.1E+08	4.9E+06	8	9.2	1.2	20.0	48Ca	0.7	60.3
44K	22.13 m	9.2E+08	2.4E+08	5.6E+06	8	8.8	1.2	19.8	48Ca	0.7	60.3
45K	17.3 m	9.2E+08	2.4E+08	5.6E+06	8	8.4	1.2	18.9	48Ca	0.7	60.3
46K	105 s	8.0E+08	2.1E+08	4.9E+06	8	8.1	1.2	18.1	48Ca	0.7	60.3
47K	17.5 s	5.3E+08	1.3E+08	3.1E+06	8	7.7	1.2	17.3	48Ca	0.7	60.3