

Latest results for SPIRAL1 beam developpements

Previous beams with ECR (gas) and FEBIAD ion sources are still available on GANIL-SPIRAL2 chart beam

	Isotopes			Extrapolated rate (pps) for the maximum primary beam intensity	Expected rate with the best primary beam		Order of magnitude of post-accelerated beam rate (pps)
	Mass	Isotope(s)	T _{1/2} (s)		Element_Energy_Power	Rate (pps)	
Year: 2022 Target Ion Source n°55 Target : Graphite Source : FEBIAD Primary beam 84Kr 67MeV/A Power : 10W Maximum power available : 500W	80	80Rb	34	7.16E+07	84Kr 67MeV/A 500W	7.2E+07	4.E+05
		79mKr	50	3.04E+07	84Kr 67MeV/A 500W	3.0E+07	2.E+05
	79	79Kr	126144	3.45E+07	84Kr 67MeV/A 500W	3.5E+07	2.E+05
		79Rb	1374	1.13E+07	84Kr 67MeV/A 500W	1.1E+07	6.E+04
		79mBr	4.85	8.13E+06	84Kr 67MeV/A 500W	8.1E+06	4.E+04
	78	78mRb	344.4	1.95E+06	84Kr 67MeV/A 500W	1.9E+06	1.E+04
		78Rb	1059.6	2.96E+06	84Kr 67MeV/A 500W	3.0E+06	1.E+04
		78Br	387	4.69E+07	84Kr 67MeV/A 500W	4.7E+07	2.E+05
		77Rb	226.8	4.01E+05	84Kr 67MeV/A 500W	4.0E+05	2.E+03
		77Kr	4275	2.30E+07	78Kr 70MeV/A 800W	8.3E+08	4.E+06
		77mBr	256.8	4.24E+07	78Kr 70MeV/A 800W	2.0E+08	1.E+06
		77Br	205344	4.49E+07	78Kr 70MeV/A 800W	2.1E+08	1.E+06
		77mSe	17.36	1.83E+04	84Kr 67MeV/A 500W	1.8E+04	9.E+01
		76Rb	36.5	1.76E+04	84Kr 67MeV/A 500W	1.8E+04	9.E+01
		76Kr	53280	5.40E+06	78Kr 70MeV/A 800W	1.9E+08	1.E+06
		76Br	58320	4.45E+07	78Kr 70MeV/A 800W	7.1E+08	4.E+06
		76mBr	1.31	1.61E+06	78Kr 70MeV/A 800W	2.6E+07	1.E+05
		75Kr	276	7.78E+05	84Kr 67MeV/A 500W	7.8E+05	4.E+03
		75Br	5802	3.96E+07	78Kr 70MeV/A 800W	6.7E+08	3.E+06
		75Ga	126	1.15E+04	76Ge 61MeV/A 500W	2.8E+06	1.E+04
	71Se	284.4	2.20E+04	78Kr 70MeV/A 800W	5.2E+05	3.E+03	
	71As	235080	1.85E+07	78Kr 70MeV/A 800W	8.2E+07	4.E+05	
	71Zn	147	1.63E+04	76Ge 61MeV/A 500W	6.6E+05	3.E+03	
	71mZn	14256	1.31E+05	76Ge 61MeV/A 500W	5.3E+06	3.E+04	
	69As	912	1.48E+05	78Kr 70MeV/A 800W	2.3E+06	1.E+04	
	69Ge	140580	1.24E+07	70Ge 71MeV/A 600W	1.4E+08	7.E+05	
	69mZn	49521.6	2.28E+06	76Ge 61MeV/A 500W	2.3E+07	1.E+05	
	69Cu	171	3.74E+04	76Ge 61MeV/A 500W	1.1E+06	6.E+03	
	68Cu	225	8.53E+04	76Ge 61MeV/A 500W	1.5E+06	7.E+03	
	68Ga	4062.6	5.04E+07	70Ge 71MeV/A 600W	3.0E+08	1.E+06	
	67Ge	1134	1.33E+05	70Ge 71MeV/A 600W	8.0E+05	4.E+03	
	67Ga	281810.88	3.28E+07	70Ge 71MeV/A 600W	2.2E+08	1.E+06	
	65Ga	912	5.52E+06	70Ge 71MeV/A 600W	4.1E+07	2.E+05	
	65Ni	9061.884	2.95E+04	76Ge 61MeV/A 500W	2.8E+05	1.E+03	
Year: 2021 Target Ion Source n°53 Target : Graphite Source : FEBIAD Primary beam 48Ca 60MeV/A Power : 200W Maximum power available : 700W	47	47K	17.5	2.67E+08	48Ca 60MeV/A 700W	2.7E+08	1.E+06
	45	45Ar	21.48	5.68E+06	48Ca 60MeV/A 700W	5.7E+06	3.E+04
		45K	1038	4.95E+08	48Ca 60MeV/A 700W	4.9E+08	2.E+06
		43Cl	3.3	6.84E+04	48Ca 60MeV/A 700W	6.8E+04	3.E+02
	43	43Ar	322.2	3.92E+07	48Ca 60MeV/A 700W	3.9E+07	2.E+05
		42K	44496	6.24E+08	48Ca 60MeV/A 700W	6.2E+08	3.E+06
	H41Cl	38.4	3.48E+05	48Ca 60MeV/A 700W	3.5E+05	2.E+03	
	42Cl	6.8	3.23E+05	48Ca 60MeV/A 700W	3.2E+05	2.E+03	
	37S	303	9.27E+04	40Ar 95MeV/A 1000W	1.4E+05	7.E+02	
Year: 2023 Target Ion Source n°55 Target : Graphite Source : FEBIAD Primary beam 50Cr 72MeV/A Power : 20W Maximum power available : 500W	50	50mMn*	105	3.85E+05	50Cr 72MeV/A 500W	3.8E+05	2.E+03
	48	48Cr*	77616	5.94E+06	50Cr 72MeV/A 500W	5.9E+06	3.E+04
Year: 2022 Target Ion Source n°55 Target : Graphite Source : FEBIAD Primary beam 36Ar 74MeV/A Power : 850W Maximum power available : 850W	35	35Ar	1.7756	1.54E+08	36Ar 95Mev/A 1500W	2.3E+08	1.E+06
		H34mCl	1919.4	1.89E+07	36Ar 95Mev/A 1500W	2.9E+07	1.E+05
		34Ar	0.8438	7.02E+06	36Ar 95Mev/A 1500W	1.1E+07	5.E+04
	34	34Cl	1.5266	2.39E+07	36Ar 95Mev/A 1500W	3.6E+07	2.E+05
		34mCl	1919.4	7.90E+07	36Ar 95Mev/A 1500W	1.2E+08	6.E+05
		33Ar	0.173	9.81E+04	36Ar 95Mev/A 1500W	1.5E+05	8.E+02
		33Cl	2.511	2.21E+06	36Ar 95Mev/A 1500W	3.4E+06	2.E+04
		32Ar	0.098	1.14E+03	36Ar 95Mev/A 1500W	1.7E+03	9.E+00
		32Cl	0.298	8.52E+04	36Ar 95Mev/A 1500W	1.3E+05	7.E+02
		31Cl	0.19	8.05E+02	36Ar 95Mev/A 1500W	1.2E+03	6.E+00
		C19O	26.91	1.92E+03	36Ar 95Mev/A 1500W	2.9E+03	1.E+01
		30Al	3.62	1.30E+03	36S 77.5Mev/A 1500W	1.9E+04	1.E+02
		29Al	394	1.14E+05	36S 77.5Mev/A 1500W	7.1E+05	4.E+03
		29Mg	1.3	2.27E+03	36S 77.5Mev/A 1500W	4.3E+04	2.E+02
		28Al	134.7	3.27E+06	36S 77.5Mev/A 1500W	9.5E+06	5.E+04
		27Mg	567.5	2.62E+05	36S 77.5Mev/A 1500W	1.3E+06	6.E+03
		26Na	1.07128	2.21E+05	36S 77.5Mev/A 1500W	1.5E+06	7.E+03
		26mAl	6.346	9.22E+04	32S 95Mev/A 800W	1.3E+05	7.E+02
		25Al	7.183	3.80E+04	32S 95Mev/A 800W	5.7E+04	3.E+02
		25Na	59.1	8.67E+06	36S 77.5Mev/A 1500W	3.7E+07	2.E+05
		25Ne	0.602	6.52E+03	36S 77.5Mev/A 1500W	5.9E+04	3.E+02
		24Ne	202.8	2.18E+05	26Mg 80MeV/A 1500W	3.8E+06	2.E+04
		24Na	53989.2	9.25E+07	26Mg 80MeV/A 1500W	9.1E+08	5.E+06
		24mNa	0.0202	2.87E+05	26Mg 80MeV/A 1500W	2.8E+06	1.E+04
	24Al	2.053	9.47E+02	32S 95Mev/A 800W	1.4E+03	7.E+00	
	23Ne	37.25	1.43E+06	26Mg 80MeV/A 1500W	1.6E+07	8.E+04	
	23Mg	11.3046	4.27E+06	24Mg 95Mev/A 1500W	8.8E+07	4.E+05	
	21Na	22.49	1.13E+07	24Mg 95Mev/A 1500W	1.0E+08	5.E+05	
	1H20F	11	3.90E+04	24Mg 95Mev/A 1500W	2.0E+05	1.E+03	
	20Na	0.4479	1.38E+06	24Mg 95Mev/A 1500W	1.3E+07	6.E+04	
	8Li	0.84	1.00E+05	13C 60MeV/A 800W	1.88E+06	9.E+03	

* Beam intensity compatible for post-acceleration with intensity >10⁴pps, considering acceleration efficiency equal to 0,5% rates evaluation from the 2023 measurements are still ongoing.

Contact chartbeams-spiral1@ganil.fr for informations about purity, other isotopes or energy available