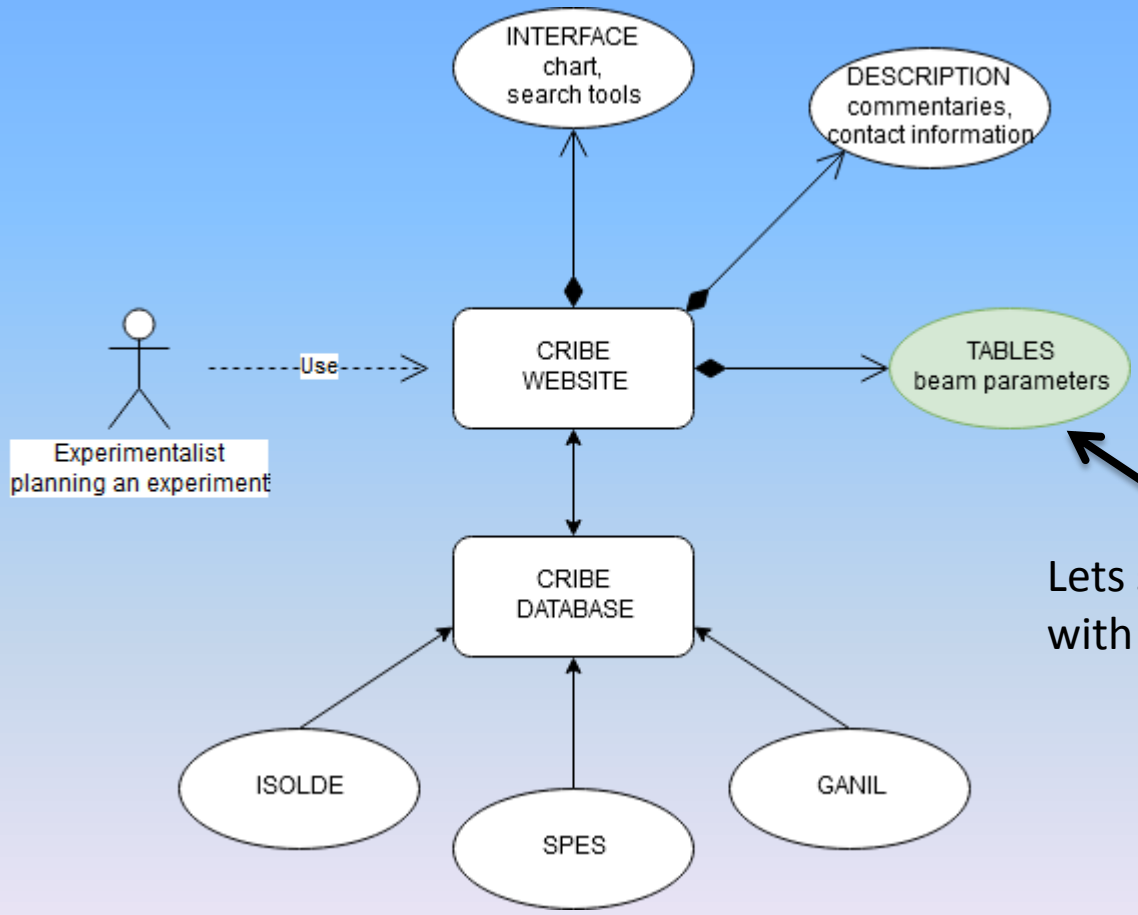
RIB data format for CRIBE (Chart of Radioactive Ion Beams in Europe)

JRA EURISOL

WP14

CRIBE:

The tool to present RIB data in the most useful way



Lets start the discussion with BEAM PARAMETERS

Comparison of RIB parameters published by different facilities

			GANIL/S3	ISOLDE	ALTO	SPES	GANIL/SPIRAL 1
PRIMARY BEAM		isotop	28Si	proton	electron	proton	86Kr
		current	2E+14 pps / 4,4 kW	2 uA	10 uA	5 uA	0,8 kW
		energy	9,3 MeV/u	1,4 GeV	50 MeV	40 MeV	57,9 MeV/u
PRODUCTION		target material	40Ca	U Carbide, UC2.201	UCx	UCx	Carbon
		ion source	-	RILIS	FEBIAD/SIS/LIS	FEBIAD	-
SECONDARY BEAM		element	65Se	124Cd	79Se	79Se	79Se
		half-life	33ms	1.25 s	-	3.57E+13 s	295 ky
	PRE-ACC	intensity	MIN s: 1,3E-3 pps AVE s: 2,7 E-3 pps MAX s: 5,7E-3 pps	AVE for mat: 7.7 E+6 ions/C	CUM 1,3E+5 pps	4,1E+5 pps	1E+5 pps
		energy	(?)10 - 30 keV	30 - 60 keV	30 keV	20 - 40 keV	10 - 24 keV
		charge	always +1	always +1	always +1	always +1	possible +n / +1
	POST-ACC	purity	-	-	-	given as a commentary	given as a commentary
		intensity	no postacc	another data: intruction for calculating yield estimate given	no postacc	for q: 8,2E+3 pps	for q: 5,7 E+6 pps
		energy				12 MeV/u	MIN: 1,2 MeV/u MAX: 8,4 MeV/u
		charge				most abundant +15	most abundant +14
Other parameters provided by facilities:			-	efficiency 10% temperature of target target thickness (50g/cm²) temperature of source n-converter usage laser usage release info(rise, fall etc) transferline (hot,warm)	eff. of ionisation % temperature 2000° nr of fissions/s 1E+11 diffusion/desorption exit time	temperature 2000° number fissions/s 1E+13 spectrometer A/Q (transferline compatibility)	-

Black color information from tables

Red color information from other sources

Which beam parameters to include?

Our proposition for discussion:

We propose to consider adding the purity

and showing less production information at first sight

isotope	half-life	Pre-accelerated RIB		Post-accelerated RIB					Production		Beam Availability Year	Facility
		intensity	purity min %	intensity	purity min %	charge state	energy MeV/A min	energy MeV/A max	target material	primary beam		

Energy, for a fixed charge state, can be adjusted within a given range without intesity lowering. Wider energy range is possible with intensity lowering.
For more information about facilities, and beam production: see additional description.
For questions, and submitting beam proposals: contact representatives.

Link to contact info

Link to collective DESCRIPTION with information about facilities and production

Example of tables

isotope	half-life	Pre-accelerated RIB		Post-accelerated RIB					Production		Beam Availability Year	Facility
		intensity	purity min %	intensity	purity min %	charge state	energy MeV/A min	energy MeV/A max	target material	primary beam		
72Kr	17s	2E+4 ions/uC	-	-	-	-	-	-	Y2O3	proton	now	ISOLDE
72Kr	17s	# 2E+2 pps	-	4E+1 pps	-	+11	1,8	6,3	Carbon	78Kr	2018	GANIL/SP1
72Kr	17s	1,7E+3 pps	-	2,8E+1 pps	-	+14	1,2	10,1	Carbon	78Kr	2018	GANIL/SP1
88Rb	17.78s	1.3E+6 ions/uC	-	-	-	-	-	-	UCx	proton	now	ISOLDE
88Rb	17.78s	2.6E+6 pps	-	1.2E+4 pps	-	+15	1.2	7.7	Nb	12C	2018	GANIL/SP1
88Rb	17.78s	5.5E+8 pps	-	1.1E+7 pps	-	+17	12	12	-	-	2019	SPES
88Rb	17.78s	2.2E+10 pps	-	4.4E+8 pps	-	+17	12	12	-	-	2020	SPES

2E+2 pps measured value

2E+2 pps extrapolation from preacc mesaurement

2E+2 pps calculated value

\- No data yet.

\# Measurement was done for non-optimal primary beam energy and/or power. Possible intensity optimisation. In case of ISOLDE data taken from previous SC accelerator, and available intensity value can vary.

Energy, for a fixed charge state, can be adjusted within a given range without intesity lowering. Wider energy range is possible with intensity lowering.

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After choosing parameters: do we want to include all the records?

Kr	72	17.2 s	PSB	2.0E+04	Y_2O_3
Kr	72	17.2 s	PSB	1.0E+03	ZrO_2
Kr	72	17.2 s	PSB	2.0E+03	Nb
Kr	72	17.2 s	PSB	1.1E+04	Nb
Kr	72	17.2 s	PSB	1.5E+03	Nb

Fragment of ISOLDE yield records

And many other questions…