CONSORCI PER A LA CONSTRUCCIÓ, EQUIPAMENT I EXPLOTACIÓ DEL LABORATORI DE LLUM DE SINCROTRÓ

CONSORCIO PARA LA CONSTRUCCIÓN, EQUIPAMIENTO Y EXPLOTACIÓN DEL LABORATORIO DE LUZ DE SINCROTRÓN

REPORT ABOUT 2012 CALL FOR PROPOSALS

INFORME SOBRE EL RESULTAT DE LA CONVOCATÒRIA D'ACCÉS AL LABORATORI PER L'ANY 2012

INFORME SOBRE LA CONVOCATORIA DE ACCESO AL LABORATORIO PARA EL AÑO 2012

Gener / Enero 2012

SUMMARY

It is a common procedure in most synchrotrons to allocate beamtime in six-months periods. That means 130 shifts for users (one shift is 8 hours) per six months periods per beamline (working 3000 hours per year, and taking account that only 70% of this time will be used for users, as 10% is for in-house research, 10% for beamline commissioning and maintenance, and 10% for machine physics).

The 2012 call for proposal (deadline 17th January 2012) was thought to allocate beamtime in the second semester of 2012. Actually, it is planned to allocate beamtime as soon as the technical status of any given beamline is commensurate with the technical requirements of any given proposal. That means in this particular year, maybe not all beamlines will offer this average 130 shifts (maybe some of them can offer a bit more, starting end of April, and other ones a bit less).

The call for proposals has been a full success. We have received 203 proposals: 167 proposals from Spain, 33 from the European Union and the rest from Asia and USA. If we consider the Spanish proposals: 44% are Catalan, 27% from Madrid, 5% Basque Country, 4% Andalucía, 3% Aragon, 2% Galicia and the rest come from Canary Island, Asturias, Baleares and Cantabria. If we also consider co-proposers, the main percentages do not vary but the small percentages change a bit and some other CC.AA. (Autonomous regions) like Castilla-León also appear in the list.

The beamlines with more proposals are XALOC (protein crystallography) and MSPD (Powder Diffraction, material science). The beamlines with more demanded shifts for 2012 are CIRCE and BOREAS. Nearly 300 research groups and more than 600 individual users have applied for beamtime in this call for proposals.

The Evaluation procedure has started and shall be based on the following criteria:

- Technical criteria (whether the experiment is technically feasible in the proposed experimental beamlines or not).
- Scientific quality criteria (by an Evaluation Panel of well-renowned members of the International Scientific Community).
- Safety criteria.

From the success of this call for proposal, it is clear that only the groups with the first proposals in the scientific ranking (the most excellent) will be able to access to the synchrotron. For instance, the most demanded one is CIRCE, where researchers have applied for 498 shift, which it is well exceeding the maximum number of shifts during 2012. All beamlines show this 'overbooking', being MISTRAL the only one that is less oversubscribed. Notice, however, that oversubscription figures are only meaningful for proposals with scientific interest. Therefore it can only be quantified once the evaluation by the scientific panel has been finished. All numbers given in this report are therefore just upper bounds for the real oversubscription value.

On the other hand, it is interesting that 27% of the proposals apply for long term projects (projects where they apply for three years, with periodical access each 6 months in average).

CALL FOR PROPOSAL 2012: USER OFFICE REPORT

GENERAL DATA

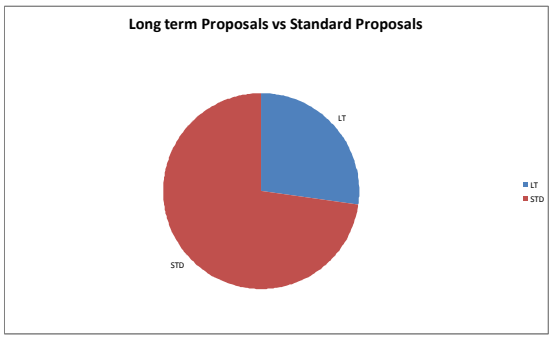
Total Number of submitted proposals : 203

Registered Number of home institutions (research groups) = 272

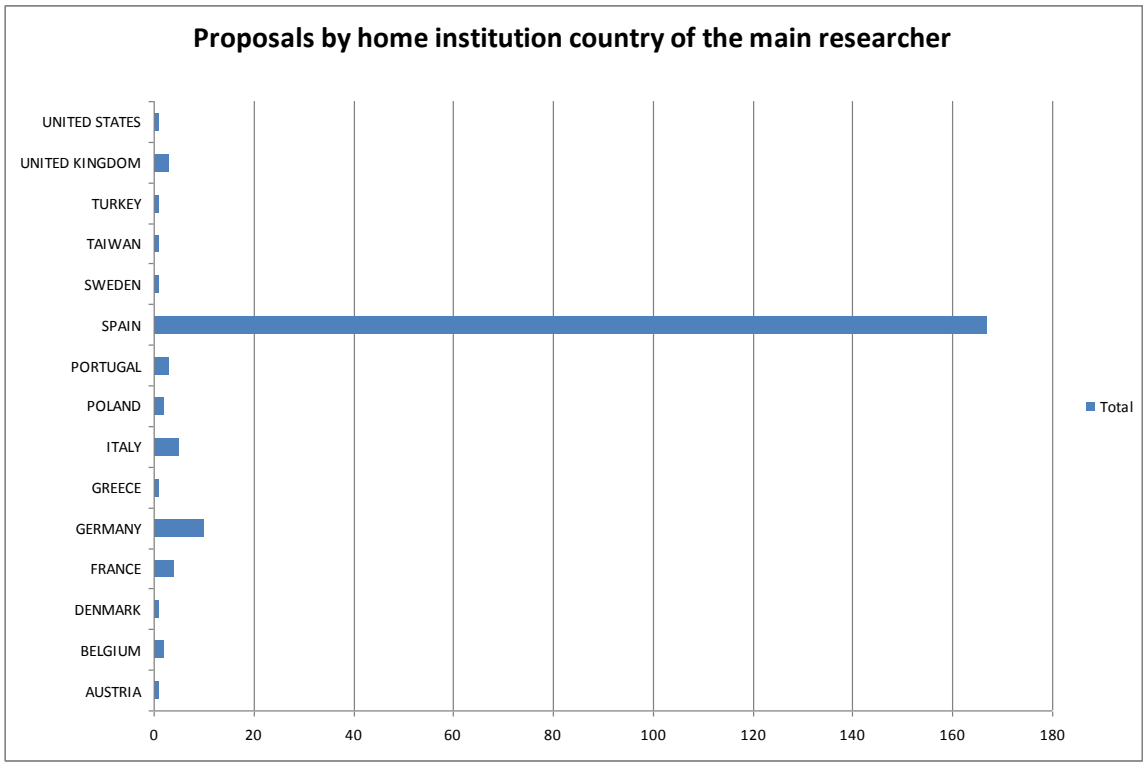
Registered users: 636.

MARES endstation will not be available until 2013, and for this reason it has been recommended not to submit any proposal. The total number of proposals for MARES is, for that reason, zero and we do not count this endstation in the statistics.

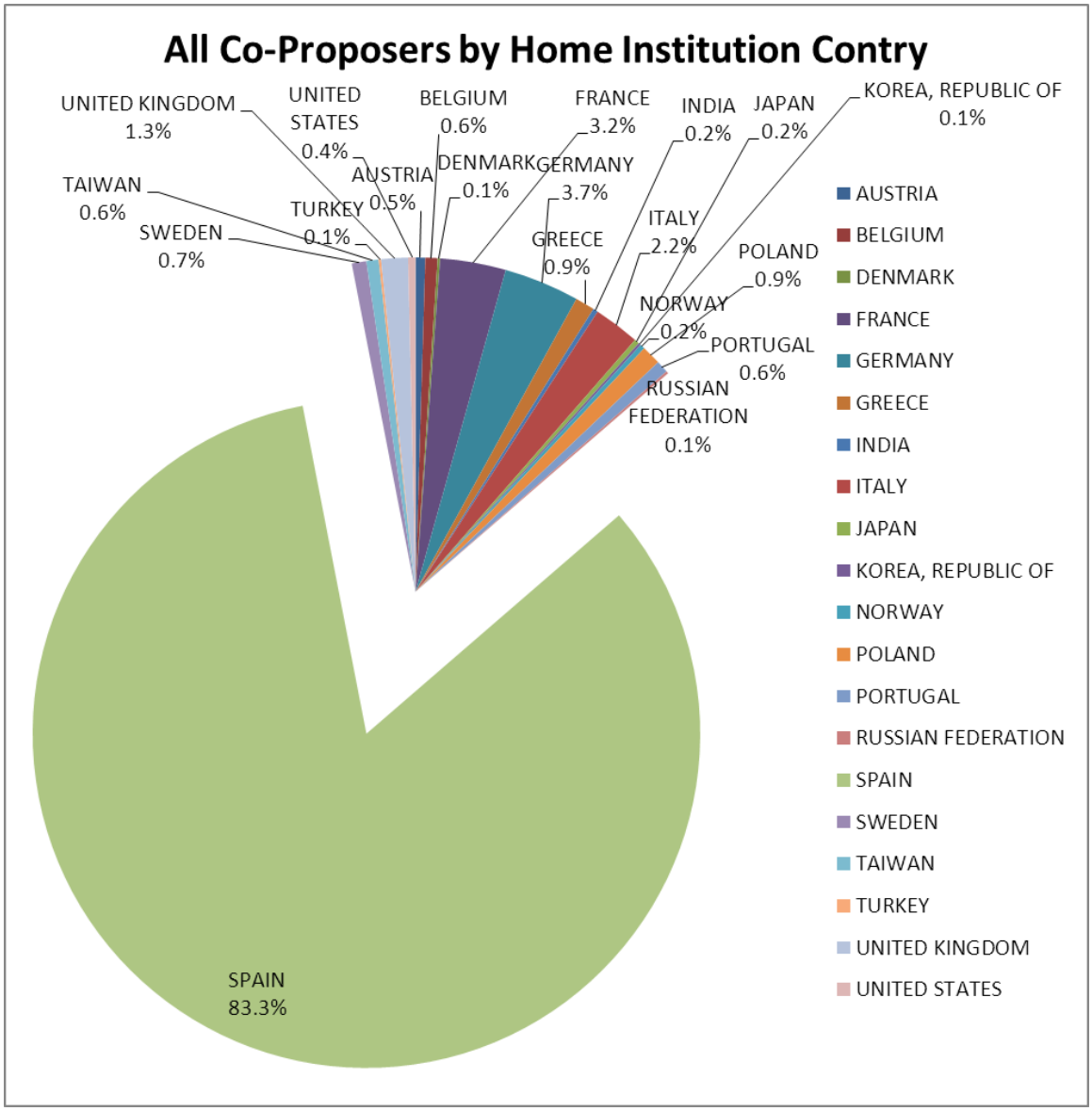
Conclusions. The first call for scientific proposals has been a full success, and in all beamlines we have more proposals than available beamtime. The most demanded beamlines in number of proposals are XALOC (long term projects with a reduced number of shifts per experiment but periodicity of 4 months in average) and MSPD. The less demanded beamline is MISTRAL. If we consider the number of shifts (demanded beamtime), the most demanded baemline has been CIRCE and the less demanded beamline is MISTRAL.



LT	*55*	*27.09%*
STD	*148*	*72.91%*
Grand Total	*203*	*100.00%*

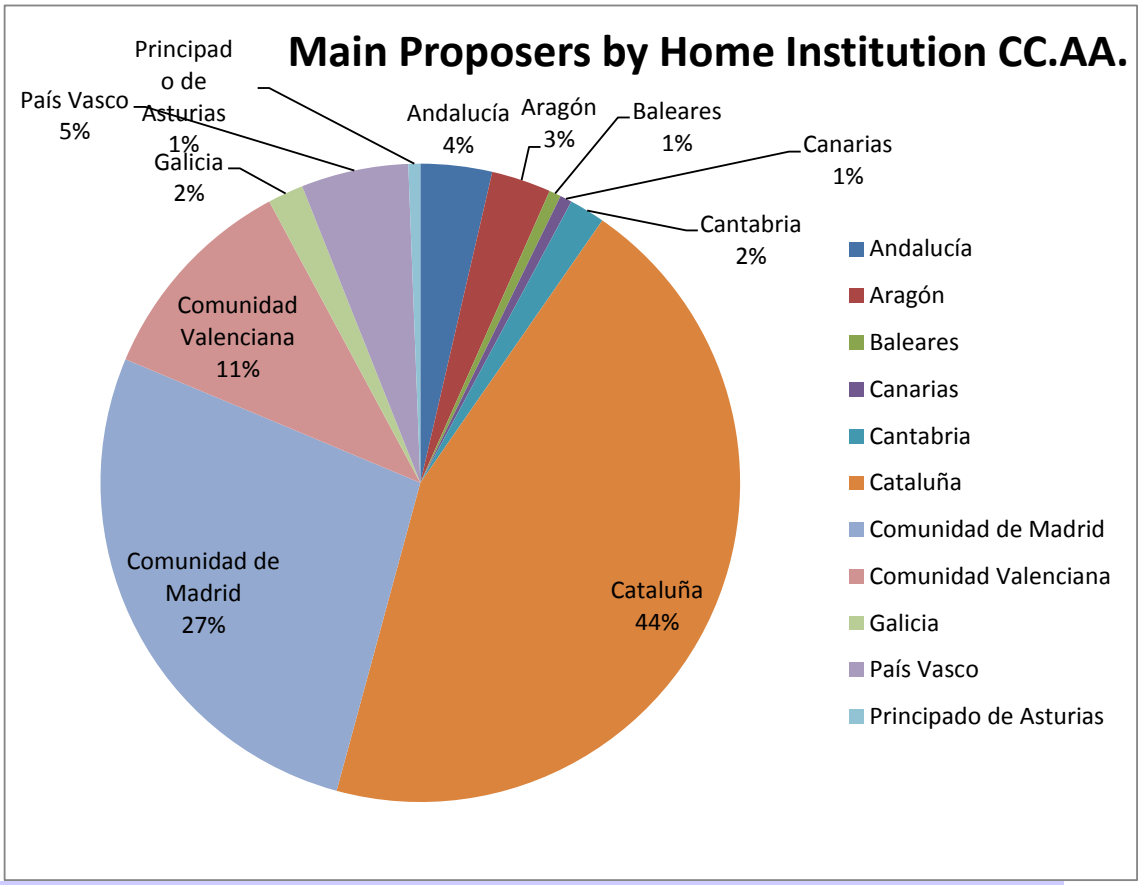


AUSTRIA	*1*
BELGIUM	*2*
DENMARK	*1*
FRANCE	*4*
GERMANY	*10*
GREECE	*1*
ITALY	*5*
POLAND	*2*
PORTUGAL	*3*
SPAIN	*167*
SWEDEN	*1*
TAIWAN	*1*
TURKEY	*1*
UNITED KINGDOM	*3*
UNITED STATES	*1*
Grand Total	*203*

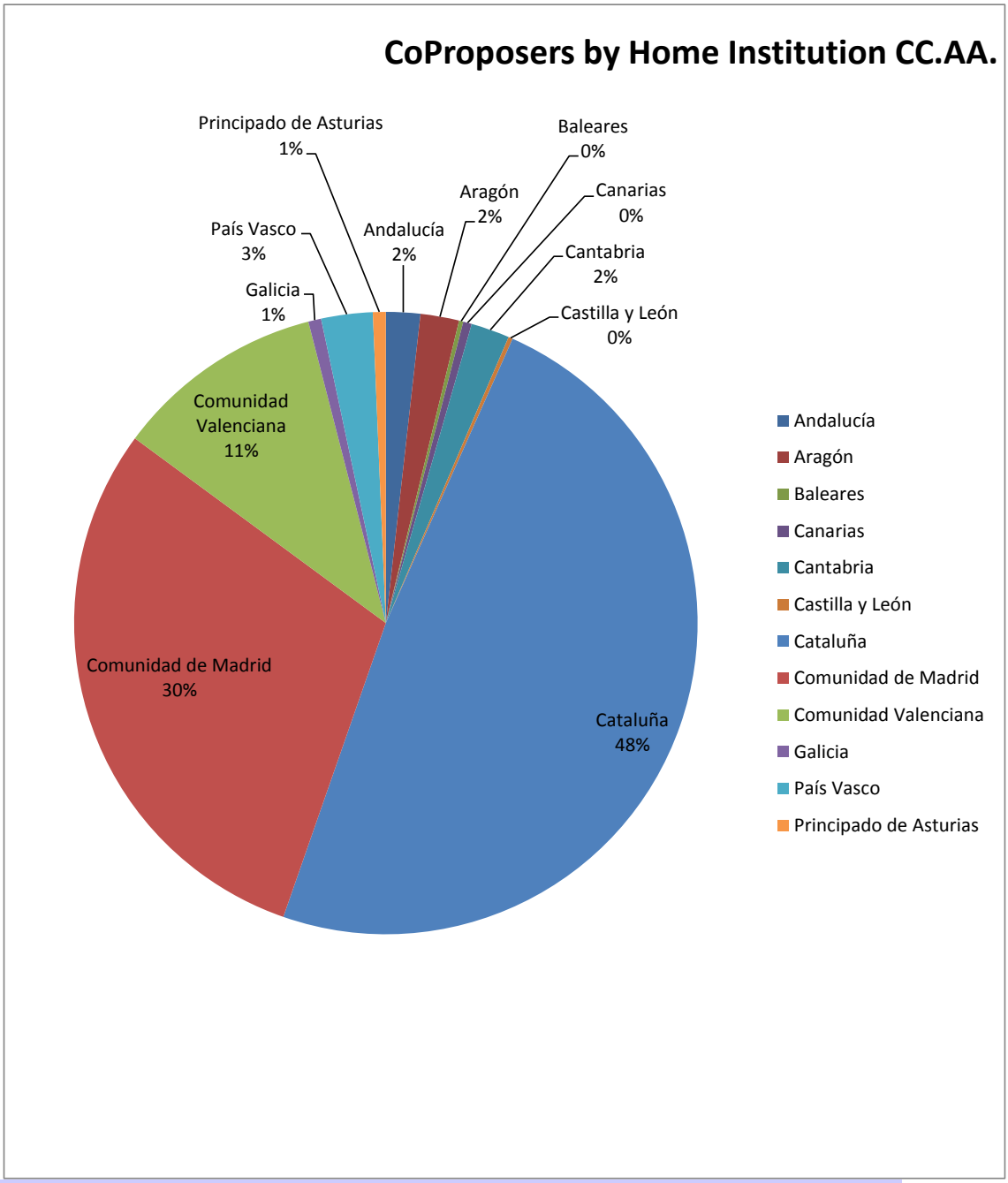

All Co-Proposers by Home Institution Contry
UNITED KINGDOM 1.3%
UNITED STATES 0.4%
BELGIUM 0.6%
FRANCE 3.2%
INDIA 0.2%
JAPAN 0.2%
KOREA, REPUBLIC OF 0.1%
TAIWAN 0.6%
AUSTRIA 0.5%
DENMARK 0.1%
GERMANY 3.7%
SWEDEN 0.7%
TURKEY 0.1%
GREECE 0.9%
ITALY 2.2%
POLAND 0.9%
NORWAY 0.2%
PORTUGAL 0.6%
RUSSIAN FEDERATION 0.1%
SPAIN 83.3%
AUSTRIA
BELGIUM
DENMARK
FRANCE
GERMANY
GREECE
INDIA
ITALY
JAPAN
KOREA, REPUBLIC OF
NORWAY
POLAND
PORTUGAL
RUSSIAN FEDERATION
SPAIN
SWEDEN
TAIWAN
TURKEY
UNITED KINGDOM
UNITED STATES

Home Institution Country	Percentage of Co-Proposers
AUSTRIA	0.47%
BELGIUM	0.59%
DENMARK	0.12%
FRANCE	3.18%
GERMANY	3.65%
GREECE	0.94%
INDIA	0.24%
ITALY	2.24%
JAPAN	0.24%
KOREA, REPUBLIC OF	0.12%
NORWAY	0.24%
POLAND	0.94%
PORTUGAL	0.59%
RUSSIAN FEDERATION	0.12%
SPAIN	83.27%
SWEDEN	0.71%
TAIWAN	0.59%
TURKEY	0.12%
UNITED KINGDOM	1.30%
UNITED STATES	0.35%
Grand Total	**100.00%**

If we only consider the Spanish proposals, the distribution by Autonomous Region (CC.AA.) is shown in the following graph.



CCAA	Main Proposers	Porcentage
Andalucía	6	4%
Aragón	5	3%
Baleares	1	1%
Canarias	1	1%
Cantabria	3	1%
Cataluña	75	44%
Comunidad de Madrid	45	27%
Comunidad Valenciana	18	11%
Galicia	3	2%
País Vasco	9	5%
Principado de Asturias	1	1%
Grand Total	**167**	**100,0%**

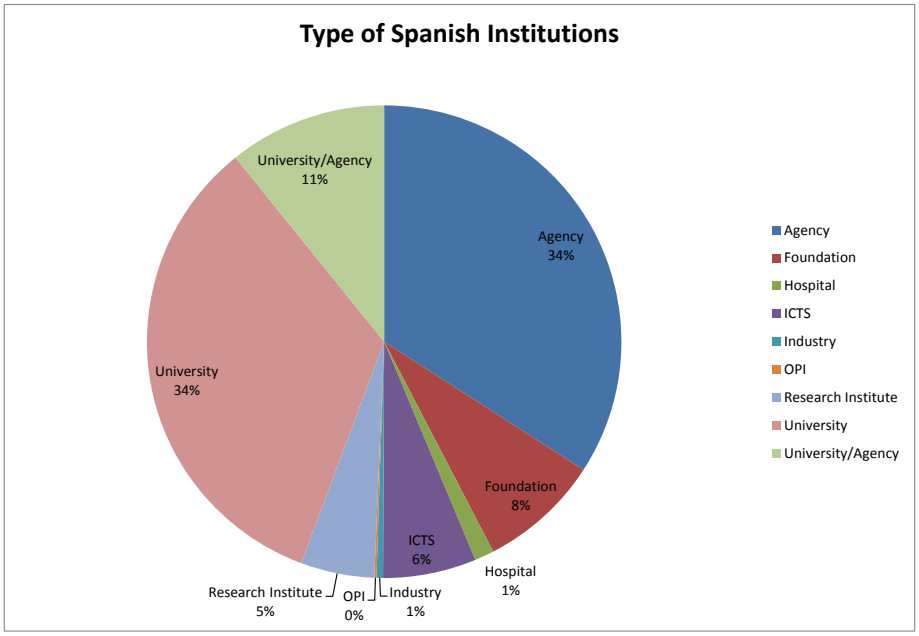


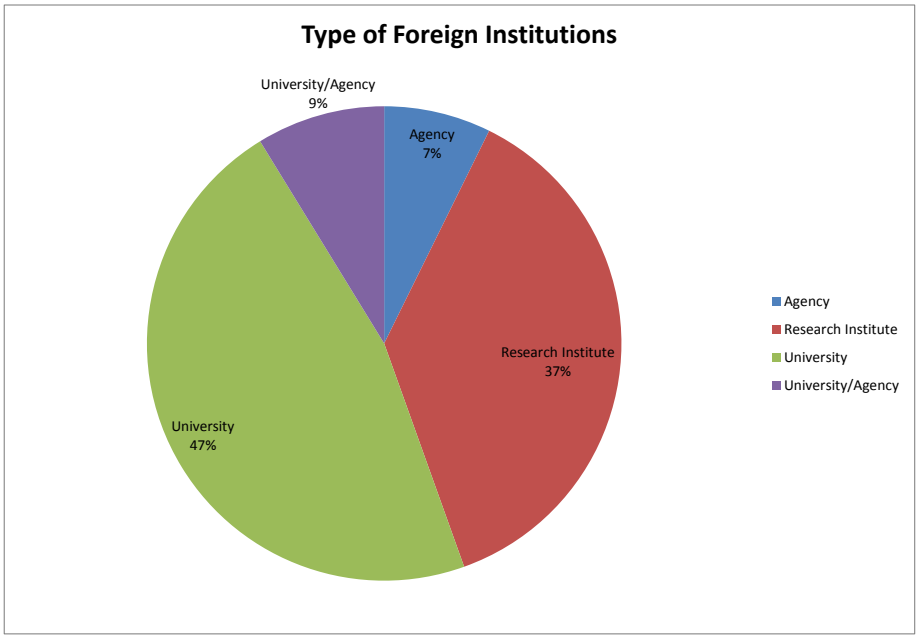
CCAA	CoProposers	Porcentage
Andalucía	8	1,78%
Aragón	9	2,00%
Baleares	1	0,22%
Canarias	2	0,44%
Cantabria	9	2,00%
Castilla y León	1	0,22%
Cataluña	219	48,67%
Comunidad de Madrid	134	29,78%
Comunidad Valenciana	49	10,89%
Galicia	3	0,67%
País Vasco	12	2,67%
Principado de Asturias	3	0,67%
Grand Total	**450**	**100,00%**

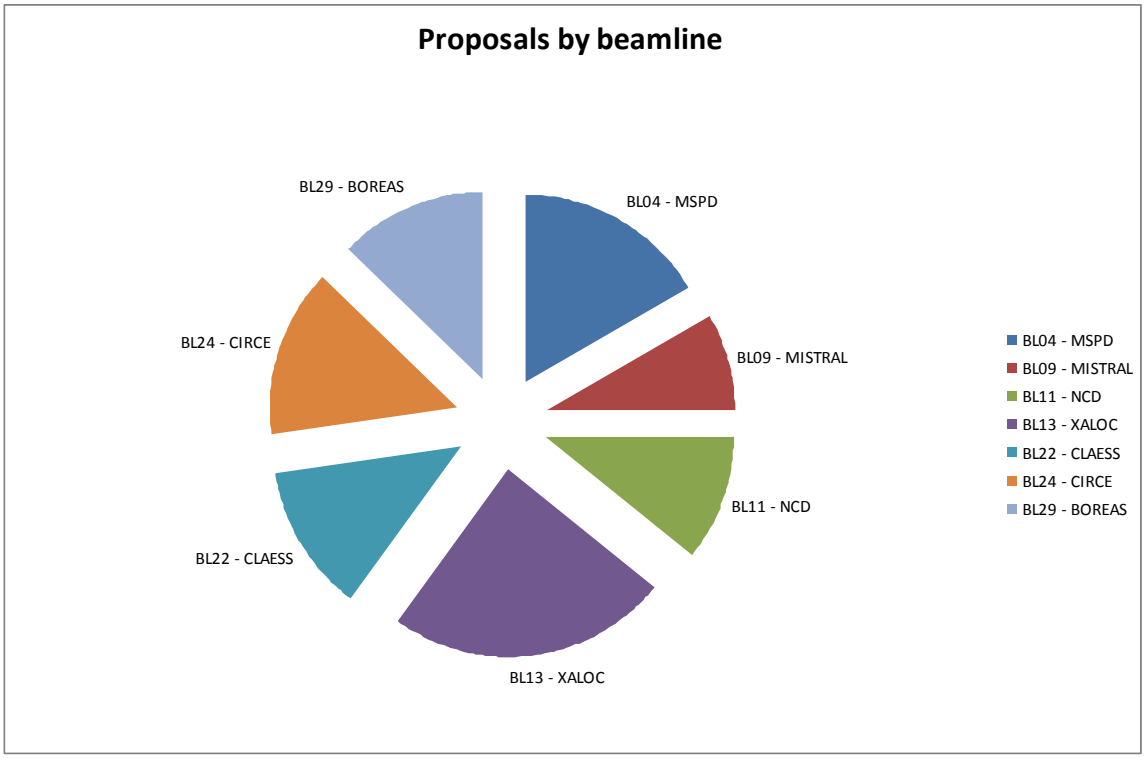
What kind of institutions have applied?
For Spanish Institutions:

- Agency is CSIC.
- University/agency are mixed centers: CSIC/University.
- There are also some foundations (Institut Catalá de Nanotecnología in Barcelona or Centro Nacional de Investigaciones Oncológicas in Madrid), OPI (INTA), hospitals, ICTS (CELLS itself), Research institutions (some Spanish home institutions have chosen this category such like Institut de Recerca Biomèdica, Institut de Ciències Fotòniques, Institut Català d'Investigació Química, Instituto Madrileño de Estudios Avanzados – Energía, Instituto Madrileño de Estudios Avanzados de Materiales or Centro de Investigación Cooperativa en Biociencias in Vizcaya) and a very few industries (Labcrew Science Management in St. Cugat-Barcelona and Francisco Albero S.A.U in L'Hospitalet-Barcelona) .

Most foreign home institutions are inside University or 'Research institute', and we also have one Agency (CNR in Italy) and one Agency/University (CNRS in France)



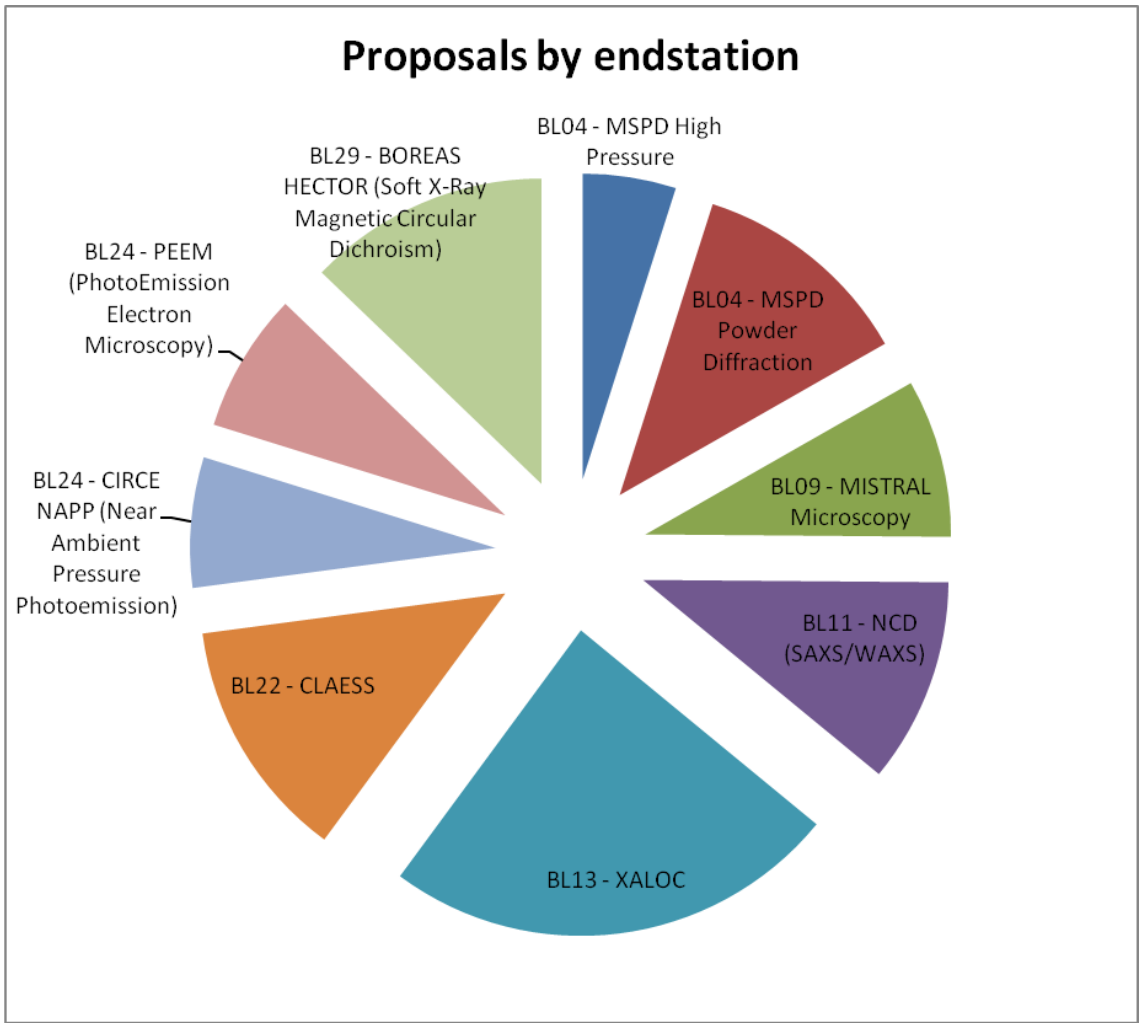




Beamline	*Proposals*	*% Proposals*	*Number of shifts for 2012*	*% Total shifts for 2012*
BL04 - MSPD	*34*	*16.75%*	*329*	*13.41%*
BL09 - MISTRAL	*17*	*8.37%*	*175*	*7.13%*
BL11 - NCD	*22*	*10.84%*	*222*	*9.05%*
BL13 - XALOC	*49*	*24.14%*	*365*	*14.88%*
BL22 - CLAESS	*26*	*12.81%*	*382*	*15.57%*
BL24 - CIRCE	*29*	*14.29%*	*498*	*20.30%*
BL29 - BOREAS	*26*	*12.81%*	*482*	*19.65%*
Grand Total	*203*	*100.00%*	*2453*	*100.00%*

In a routinary functioning of the Alba synchrotron (working 3000 hours per year with 70% of beamtime for users), the total number of shifts for users per beamline is 130 shifts. Taking into account this number, all beamlines are oversubscribed if all proposals would pass the technical and scientific review exactly with the same number of shifts requested by the proposers. Notice however that this yields only an upper bound to the actual oversubscription value, which shall be evaluated after technical and scientific filtering of the proposals.

We also mention that this year 2012 the oversubscription ratio can vary per beamline as there will be a gradual start-up of all beamlines throughout the year, according to their respective technical status (some may start a bit earlier, end of April, and others somewhat later than mid-year).



Beamline Endstation	*Proposals Number*	*Shifts Number For 2012*	*% Shifts Number for 2012*
BL04 - MSPD	*34*	*329*	*13.41%*
High Pressure	10	97	29.48%
Powder Diffraction	24	232	70.52%
BL09 - MISTRAL	*17*	*175*	*7.13%*
Microscopy	17	175	100.00%
BL11 - NCD	*22*	*222*	*9.05%*
NCD (SAXS/WAXS)	*22*	*222*	*100%*
BL13 - XALOC	*49*	*365*	*14.88%*
MX (Macromolecular crystallography)	49	365	100.00%
BL22 - CLAESS	*26*	*382*	*15.57%*
XAS/XES (X-ray Absorption Spectroscopy / X-Ray Emission Spectroscopy)	26	382	100.00%
BL24 - CIRCE	*29*	*498*	*20.30%*
NAPP (Near Ambient Pressure PhotoEmission)	14	219	43.98%
PEEM (PhotoEmission Electron Microscopy)	15	279	56.02%
BL29 - BOREAS	*26*	*482*	*19.65%*
HECTOR (Soft X-Ray Magnetic Circular Dichroism)	26	482	100.00%
Grand Total	*203*	*2453*	*100.00%*

ANNEX

Long term versus Standard proposals.

Most long term proposals are for XALOC, because the protein crystallography community is used to 'continuous beamtime', so they apply for long term proposals with flexible beamtime (that means a periodicity for coming to ALBA less than the typical six months periodicity). Actually, in average they ask for 3-6 shifts per 3-4 months.

For 2012 this is the relationship of total shifts in XALOC divided by long term proposals and short term proposals. The number of total shifts per 2013 and 2014 is in average similar to the number of shifts in 2012. ***It is clear that XALOC could be totally saturated by long term projects during three years.***

	Proposals	Shifs	
MX (Macromolecular crystallography)	49	365	100.00%
LT	34	292	80.00%
STD	15	73	20.00%

Detailed long term proposals per all beamline with shifts associated for 2012 can be seen in the following table

Row Labels	Number of Proposals	Number of Shifts	% of Shifts
BL04 - MSPD	34	329	13.41%
High Pressure	10	97	29.48%
LT	*1*	*12*	*12.37%*
STD	*9*	*85*	*87.63%*
Powder Diffraction	24	232	70.52%
LT	*3*	*33*	*14.22%*
STD	*21*	*199*	*85.78%*
BL09 - MISTRAL	17	175	7.13%
Microscopy	17	175	100.00%
LT	*7*	*87*	*49.71%*
STD	*10*	*88*	*50.29%*
BL11 - NCD	22	222	9.05%
NCD (WAXS & SAXS)	22	222	100%
LT	5	61	27.47%
STD	*77*	*161*	*72.52%*
BL13 - XALOC	49	365	14.88%
MX (Macromolecular crystallography)	49	365	100.00%
LT	*34*	*292*	*80.00%*
STD	*15*	*73*	*20.00%*
BL22 - CLAESS	26	382	15.57%
XAS/XES (X-ray Absorption Spectroscopy / X-Ray Emission Spectroscopy)	26	382	100.00%
LT	*2*	*39*	*10.21%*
STD	*24*	*343*	*89.79%*
BL24 - CIRCE	29	498	20.30%
NAPP (Near Ambient Pressure PhotoEmission)	14	219	43.98%
LT	*1*	*10*	*4.57%*

STD	*13*	*209*	*95.43%*
PEEM (PhotoEmission Electron Microscopy)	15	279	56.02%
LT	*1*	*21*	*7.53%*
STD	*14*	*258*	*92.47%*
BL29 - BOREAS	26	482	19.65%
HECTOR (Soft X-Ray Magnetic Circular Dichroism)	26	482	100.00%
LT	*1*	*40*	*8.30%*
STD	*25*	*442*	*91.70%*
Grand Total	203	2453	100.00%