

A very brief introduction to the Beam Request Submission Tool for PS & SPS Users :: 2023

Martin Schwinzerl 2022/12/06

https://ps-sps-users.web.cern.ch (SSO / EDUGain Login + JavaScript capable Browser Required!)

A new tool for PS & SPS User Support

- The development of software tools and solutions is one key part of the efforts under the EURO-LABS project (https://web.infn.it/EURO-LABS/)
- Goal: improve the quality and level of user support, streamline interactions with the users, reduce the requirements to repeadedly provide data, etc.
- Start: October 2022, Target duration for the relevant work-packages: 3 years
- First step: A new tool for collecting beam requests =>

https://ps-sps-users.web.cern.ch

(a very first step, many thanks in advance for your understanding and

for your feedback and help in further improving our tools!)



Step -1: How to get in contact if you need help?

For technical support & questions, feedback and help requests concerning the tool, please do not hesititate to contact me directly:

Martin Schwinzerl

Building 4/R-021 @ CERN

Email: martin.schwinzerl@cern.ch

Phone: +41227667069

Mattermost: PS & SPS User Management https://mattermost.web.cern.ch/signup_use r_complete/?id=77ufn4m4ntbttfba8ywaxwhf xa

- For questions regarding physics, usage of the accelerators, coordination with other activities, etc.,
- Please continue to contact the PS & SPS Physics coordinator @ CERN, E. Barbara Holzer via

Sps.Coordinator@cern.ch



Step 0: Activities, Periods, Requests, Runs

An "activity" is a name that can appear on a schedule. You can think of it as a more general term for "Experiment" (so it can also include Mds, Interventions)

→A "period" is a span of time, divided in "slots" (i.e. weeks) over which acitivities can perform measurements, experiments, interventions, at certain locations in the experimental area (or the accelerator complex) A "run" is the combination of time (when?), location (where?), and activity (who? / what?). It hopefully corresponds to the typical idea of an "epxerimental run" or measurement campaign

A "beam request" is a request for one or more such runs in a period. It is connected to an activity which will allow to keep and reuse information in the future and hopefully will improve our ability to understand our users needs







Step 1: Login to the site https://ps-sps-users.web.cern.ch

- We require a CERN user account or an "Verified External" account (i.e. EduGain, institutional logins).
- If Login does not work for you, please get in contact!
- We are trying to already assign you to your activities before your first login.
- If you see a login screen like this, please let us know which activity is misssing! => We can usually create any new or unknow activity very quickly!



PS & SPS Users Beam Requests

Beam Requests

You do not have any activities listed yet. Please contact the PS & SPS physics coordinator via sps.coordinator@cern.ch in order to create any missing activities that you did expect to find here. Please add the following pieces of information to your inquiry:

- A short name of the activity, suitable for displaying in the schedule (i.e., less than 16 characters)
- Optionally a full and descriptive name
- The categorisation of the activity (i.e., LHC, PS/SPS, INT, IEF, CERN internal, CERN external, etc.)
- Whether you have already gotten any endorsement from a scientific committee, advisory board, or individual (i.e. LHCC, SPSC, IEFC, INTC, etc.) regarding your activity
- The name and email address of the responsible person(s)

Many thanks in advance for your cooperation!



Step 1: Login to the site https://ps-sps-users.web.cern.ch

- If you are assigned to an activity, you can create a beam request
- General rule of thumb: please one beam request per activity and period

(i.e. it is good to create two requests if you plan to perform experiments with both Protons and lons)

For some activities, this may however be not optimal (large variation of hardware setups, ver different involved persons in different runs, etc.)

→ If in doubt, please contact us !!!

Signed in as: mschwinz Sian out Directory [Home **PS & SPS Users Beam Requests Beam Requests** You are not associated with any beam requests yet but you can create one or several new beam requests for at least some of the activities listed below. **Your Existing Activities** You are associated with the following 1 activity and can create any missing beam requests on at least some of them : Please click here to create a beam request! Activity Number of Beam Requests Your Role + BEAM REQUEST Beamline for Schools Coordin Many thanks to the BL4S activity for allowing

us to use them for this demonstration!



Step 2: Create Your Beam Request

- You have to answer three mandatory questions:
 - Which Period do you want to request for (i.e. Protons 2023, Ions 2023)
 - Which Accelerators do you plan to use (this can be edited / changed later)
 - Do you want to import existing users from the activity (since this is your first beam request, it is fine to keep the default for this)
- The beam request you create is persistent, i.e. you can return to it as long as it is active (no need to hurry to not lose your data!)





Step3 : A Birds-Eye-View On Your Beam Request

- You have to answer three mandatory questions:
 - Which Period do you want to request for (i.e. Protons 2023, Ions 2023)
 - Which Accelerators do you plan to use (this can be edited / changed later)
 - Do you want to import existing users from the activity (since this is your first beam request, it is fine to keep the default for this)
- The beam request you create is persistent, i.e. you can return to it as long as it is active (no need to hurry to not lose your data!)

acti	vities and bea	m requests!
Schools""	equest in P	If you see an "Edit" button like this, you can modify the data that is left of it. Some properties are currently not editable, please
Overview		contact us if you need anything changed!
Name 🕢	Beam request ir	n Protons 2023 for "Beamline for Schools"
Period	Protons 2023	
Status	Draft	
Select accelerator(s)	Directly (please complexe(s))	choose all requested areas / accelerator
	Short Name	Name
Selected accelerator(s)	PS[EA]	PS Complex (East Area)
Further details concerning the requested accelerator(s)	Beamline for Sc	hools has traditionally used the T9 beamline zone
Activity Beam Properties	Hardware and Setu	p Runs and Schedule Safety Funding Submit



Step3 : A Birds-Eye-View On Your Beam Request

- The sections can be visited in any order you want (including going back and forth between them), but
- Generally the idea is to work from left to right and inside a section from top to bottom
- In the following, We will show you briefly what each section is about
- WiP Warning: We are working on improving the visibility and layout of these sections in the near future, please let us know if you have any specific improvement suggestions!

	С	ps-sps-users.web.cern.ch/b						Q ₂		*	۲		🔒 Inki
CER	RN Acce	elerating science					Sign	ied in as:	msch	nwinz	Sign	out	Direc
[H	lome		lick he ain page ctivitie	re to go b e & to see es and bea	ack otl m re	to the her equests!							
	C	Details for "Bear	n requ	iest in P	ro	tons 2023	for	"Be	am	line	e for		
	S	Schools""			I t c	f you see an his, you can s left of it urrently not	n "Ec n moc :. Sc edi	lit" b lify t me pr table	he coper	on li lata ties ease	ike that are		
		Overview			c	contact us if changed!	γοι	ı need	i any	/thi	ng		
				Desc				C-I			×		
		Name 👩		Beam request in	n Prot	ons 2023 for "Beaml	ine for	Schools"			E	DIT	
		Period		Protons 2023									
		Status		Draft							<u> </u>		
		Select accelerator(s)		Directly (please complexe(s))	choos	se all requested area:	s / acce	elerator			E	тіс	
				Short Name		Name							
		Selected accelerator(s)		PS[EA]		PS Com	nplex (Eas	st Area)					
		Further details concerning the requested accelerator(s)		Beamline for Sc	hools	has traditionally use	d the 1	19 beamli	ine zor	ie			
		Activity Beam Propertie:	Hard	ware and Setu	p	Runs and Schedu	ule	Safety	/	Fundi	ng	Subn	nit
			/	*	/								
		Sections contrini	ng										
		further informatio	.on				_		_				



Step 4 : Section "Activity" (Part 1)

- The Name of the activity can be changed here. However, the "short name" can currently not be modified, please let us know if you have any suggestions for a better name here!
- The Purpose and Description is for describing the aim of your Activity (not specifically your beam request, the big picture so to speak). This description should ideally apply even if your activity has a long duration
- Category and Committee shows where we think your activity fits into the wide scientific community at CERN and which scientific committee (i.e. SPSC, LHCC, INTC, etc.) will be responsible for endorsing, approving and prioritzing your beam requests. Please let us know if you think the characterisation of your activity is not correct!

Activity Beam Prop	erties Hardware and Set	up Runs and Schedule	Safety	Funding	Subm
Activity					
-					
Name				_	_
You can edit the long-form please get in touch with th	name of the activity here. If you e PS and SPS physics coordination	want to change the "short" nam n.	e of your activi	E I	ті
Short Name	BL4S				
Name	Beamline for S	Schools			
Purpose And Descri	ption				
If necessary, please update detector or electronics R&I beam program.	e the purpose of the experiment o), etc.) and the description of the	or test beam activity (e.g. physics experimental program, outlining	s, prototype tes g the aim of the	e test	ті
	n/a				
Purpose 🕜	174				

Category And Committee

Please get in touch with the PS and SPS physics coordination if you require any changes to the categorisation or the responsible scientific committee for this activity.

Category	Other activities (CERN internal)
Responsible committee	n/a



Step 4 : Section "Activity" (Part 2)

- The "Target Date" refers to the currently planned end-date of the activity. It gives the PS & SPS physic coordination an idea where along the project plan or overall timeline your beam request happens and is helpful scheduling. We would be thankful if you could provide an estimate here!
- You can assing other users to the beam request to allow them to help with the creation or to even delegate the whole process (excluding potentially the submission) to them.

Target Date

Please verify and if necessary update th experiment or test beam activity, or the	e estimated target date (i.e., the envisaged completion date of your preliminary end of the current planning):		
Envisaged activity end date 🔞	n/a		
Details for the target date 🔞	n/a		
Assigned Users			

Please use the "Add" butt	on to add additional users to this beam request.	+ ADD
Role	Name (Click for details / edit)	Action
Coordinator		XDELETE
Coordinator	Martin Schwinzerl	

- \rightarrow Currently three "roles" available:
 - "Coordinator" can do anything
 - "Editor" can view and edit but not submit
 - "User": can only view information but not edit anything



Step 4 : Section "Activity" (Part 3)

- Note: Currently, you can only add use that have already been active on the site. Please contact us if you need to add lists of users in bulk or if you have issues with finding users to assing.
- Note: You can also remove users with role of less capability than yourself (except your own profile).
 - Please use this feature responsibly and coordinate with your colleagues!
- We can restore access if something goes wrong :-)

Target Date

Coordinato

Coordinato

Please use the "Add" butt	ton to add additional users to this beam request.	+ ADD
ssigned osers		
ssigned Users		
Details for the target date	e 😡 n/a	
Envisaged activity end da	n/a n/a	
experiment or test beam	activity, or the preliminary end of the current planning):	your

Martin Schwinzer

There is some additional information on display towards the end of the activity section (metadata, status info) which is not discussed here



XDELETE

Step 5 : Section "Beam Properties" (Part 1)

- Moving on to the next section, you can on the top level do three things:
 - Create one or more "beam configurations" to describe what kind of beam properties you require.
 - Give a positive or negative (i.e. exclusions) preference preference for specific locations (beamlines, zones, subzones) for your activity. These are the "global" preferences, you can fine-tune these selections later when configuring your run(s).
 - Add further comments and details in a free text field in case they don't fit anywhere else in the beam section.



Please add any general / high-level information and requirements that apply to all beam configurations and the whole testbeam activity here (spill structure, admissible bounds for the intensity variation, known issues with other potentially parallel users, etc.)



EDIT

Step 5 : Section "Beam Properties" (Part 2)

- Within the beam configuration section, you can create one or more sets of parameters that describe your beam requirements
 - Primary, secondary, tertiary beams, targets
 - Muons, Hadrons, Leptons, Ions
 - Polarity, Intensity, and Momentum
 - Beam size, number of primary particles on target, momentum deviation
 - It is possible to give a range for several paramters
- Please note that some combinations of paramaters that can be entered are not meaningful or sensible – we are working on improving this but would be grateful for your cooperation, many thanks!

Add New Beam Configuration		
Particle Data		
Primary beam particle * 😡	Protons	~
Mode of beam generation *	Tertiary beam	~
Type of target	Electron enriched target	~
Particle type	Electrons or Positrons (High Purity)	M
Polarity	No preference (polarity does not matter)	~
Intensity and Momentum		
Target intensity [particles/spill] * 😡	10k particles/spill	~
Min.beam momentum [GeV/c]	0.5	Range ~
Max. beam momentum [GeV/c]	5 Switch between di modes (Value, ran	fferent input ge, free text
Beam Size, Target Intensity, Mo	mentum Deviation	Ten)



Step 5 : Section "Beam Properties" (Part 3)

- Once saved, the beam configuration is given an automatically generated name, you can change it if you want to
- You can add a (prioritized) list of locations that you want to either prefer or discourage for scheduling your beam request
- Please use the filter field to narrow down the nubmer of entries in the list and please let us know if something is missing!

Activity	Beam Properties	Hardware and Setup	Runs and Schedule	Safety	Funding	Submit
Beam P	roperties					
Beam Co	nfigurations: Pa	rticle Type, Target,	Momentum, etc.			
There is 1 l Please des	beam configuration availal cribe the requirements of	ble for this testbeam request your activity by adding beam	: i configurations.		+ 4	D D
Beam Cor	nfiguration (Click for de	etails or to edit)			Act	ions
Proton Rur	n, Charged pure e, 0.5 - 5.0) GeV/c, 20.0 - 40.0 mm			×	DELETE

Location Preferences: Accelerators, Beamlines, Zones, SubZones

Requested Locations, Positive Preferences

You can add additional location preferences for this beam request using the "Add" button hese preferences by editing the individual entries and changing the "sequence" value - er equence values appear earlier in the list and have a higher priority.	. You can reorder htries with smaller	+ ADD
Requested Locations (Click for details or to edit)	Sequence	Actions
PS[EA] / T9	1	XDELETE
PS[EA] / T10	2	XDELETE

Exclusion of Locations, Negative Preferences



Step 6 : Section "Hardware Setup" (Part 1)

Similar to the procedure with the beam configurations, you can create one or more sets of hardware configurations to be used during your activity

It is mandatory to create at least one hardware setup or to provide a (detailed) freetext description of your setup in the field at the end of the section

Activity	Beam Properties	Hardware and Setup	Runs and Schedule	Safety	Funding	Submit
Hardwa	are And Setup	Configurations				
Hardwar	e Setups					
There are o Please des	currently no hardware set cribe the requirements of	ups available for this beam re your activity by adding hardv	quest. vare setup.		+ 4	DD
Other R	equirements And [Descriptions				
Please add whole testl	any general / high-level i beam activity here.	nformation and requirements	s that apply to all hardware :	setups and th	e c	ті

Step 6 : Section "Hardware Setup" (Part 2)

Creating a hardware setup configuration only involves a view questions at first, you will get the opportunity to add many additional details after it has been created!

The most crucial information is whether your setup has implications on downstream users or is installed in a fixed location

Hardware And Setup Configurations

Add New Hardware Setup Configuration

In the following, we are asking for a minimum amount of data to create a new hardware setup configuration. You can expand this record after its creation, allowing you to add hardware devices, describing its function, formulating its power, gas, and cooling, requirements, etc. .

Name of the setup 🛛 🚱	Beamline 4 Schools Setup
Influence on beam * 🕢	(Mostly) Transparent ~
Is your setup a fixed installation ?	
Description	We intend to use our scintillators and potentially our Micro-Megas / MRPC detectors, depending on the requirements of the winning entries in our competition
Actions	SAVE A CANCEL

Save Beam Configuration



Step 6 : Section "Hardware Setup" (Part 3)

 →After the hardware setup has been created, you should see a detailed view with default values
→ please edit them to reflect your requirements!

Note specifically the section to add "Hardware Devices"; this allows you to request / announce any beam instrumentation, platforms or tables, magnets, telescopes, etc.

Again, please let us know if somethin is missing or appears to be not correctly designated

Height of the beam [m] 👩	Not specified	
Add Devices		e Bac
Category of device 🛛 🕢	Platform or table	
Hardware device * 😡	DESY table	
Number of instances 🛛 🕢	2	
Details and further comments		



Step 6 : Section "Hardware Setup" (Part 4)

You can also supply your requirements / constraints regarding

- The height of the beam above the floor (including the ability to define ranges or non-nummerical values)
- Any gas or cooling services you may require
- Whether you may need the crane service
- Details concerning your use of the control / counting room and experimental area
- Most of the fields are not mandatory, please provide whatever information makes sense in your context!

Gas And Cooling Requirements

Requires gases 🛛 🕢	Yes ~
Requires gases details 🛛 🔞	For the MRPCs, a gas installation and mixing capabilities may be required. We also expect to require standard gases (Ar/CO2.et.c) in case DWC or similar detctors are used.
Cooling required 🛛 🔞	Don't know ~
Cooling details * 🕢	Depending on the experiment, chillers / cryogenic substances may be required
Actions	CUPDATE D CANCEL



Step 7 : Section "Runs and Schedule" (Part 1)

- In this section we would ask you to state
 - Your planed runs, including any preferences (positive and negative) regarding the time when we should schedule them
 - Optionally: which hardware setups and beam configurations are applicable to which run (the default assumption is that they apply to all of them)
 - State any "global" negative preferences if there are any periods of time (i.e. conferences, dependencies on other resources, etc.) that rules any work towards your activity

It is manadatory to provide at least one run



Runs And Schedule Information

You currently do not have any runs defined, please create at least one run to provide us with information about how long and when you intend to use the beamlines.

Exclusion Periods (Negative Global Preferences For Scheduling)

Exclusion periods refer to any period in time where no runs (or any other work concerning your beam request) should be scheduled. Note that in additon to the global exclusion periods defined here, you can also specifiy exclusion periods for individual runs below. Use the "Add" button to create your first exclusion period:



+ ADD

Step 7 : Section "Runs and Schedule" (Part 2)

- The most important piece of information is your usage, i.e.:
 - Main or Parallel (depending on availability, the default)
 - Parasitic
 - Exclusively Main usage
 - No beam / access only
 - Placeholde (to indicate that you need a break between two runs for data analysis, etc.)
- The installation and deinstallaton time is considered "inclusive" in your usage time

Add a Run

- You can add any consequitive period of time within your activities schedule below as a run below. Examples for a run are
- Testbeams and exploratorative runs to test your equipment as a main or parallel user
- · Runs for data taking as either main, parallel, or parasitic user
- Pauses and breaks between your runs which you would prefer to not schedule so you can indicate minimum time for data analysis, equipment preparation, etc. as placeholder runs.

You can specify your time and beamline preferences, beam configuration, and hardware setups after creating the run.

Name of the run 😡	Test of Equipment, Validation of Concept		
Primary particle used in the run 🛛 🔞	Protons		~
Type of usage 🕢	Main or parallel usage		~
Total duration of usage 🛛 🕢	1	Week(s)	~
Specify installation time 🛛 🕢	No		~
Specify deinstallation time 🛛 🚱	No		~



Step 7 : Section "Runs and Schedule" (Part 3)

- Note that the amount of beam time requested within one year (not period!) may introduce the need to get approval from your scientific committee (cf. The Activity section!)
- Also: please prefer the use of "weeks" (or "slots", which are equivalent but start on Wednesday) to providing individual dates when stating times and intervals / preferences – it makes life a lot easier for scheduling!

Select date mode * 	Select based on the slots of the period v
Regin slot * @	Week 26: 2023/06/28 until 2023/07/05 (Protons 2023) ~
End slot * 🕜	Week 29: 2023/07/19 until 2023/07/26 (Protons 2023) ~
	Please schedule our test run during these period of time as it allows us
Additional information and description	to fix anything in time before our dedicated measurement run with the winners of the competition in autumn



Step 8 : Section "Safety"

- We would ask you to indicate use of any of the following hazardous categories
 - Gases (Flammable, Poisenous, Greenhouse Effect causing
 - Mechanical Safety
 - Cryogenics
 - Lasers
 - · Irradiated Materials and Sources
- →Note that this section does not replace the ISIEC Form!!!
- Its Manadatory to at least edit this section once, we require this information to for example decide when to consult with our colleagues from the safety groups during scheduling!

Activity	Beam Properties	Hardware and Setup	Runs and Schedule	Safety	Funding	Submit
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Safety Relevant Information

Note: in the following, we would ask you to provide any safety or security related concerns or constraints that may arise due to your experimental activity or test beam. The links below have been provided by the CERN EP safety people and require all login / access via single-sign-on (SSO).

Gas Safety: Flammable Gases, Poisenous Gases, Greenhouse Gases

Please check CERN safety rules regarding flammable gases, cf. https://ep-th-safety.web.cern.ch/node/33459 Concerning greenhouse relevant gases, please do consider the information and requirements laid out in https://ep-th-safety.web.cern.ch/node/33452

Uses flamable gas(es)	Don't Know
Uses poisoneous, mutagenic, etc. gas(es)	Don't Know
Uses greenhouse gas(es) and substance(s)	Don't Know

Mechanical Safety, Vessels under Pressure, Vacuum

Please consult the guidelines and requirements outlined in the mechanical safety section of the EP - TH Safety group: https://ep-th-safety.web.cern.ch/node/33521. Please also indicate any potential hazards due to use of pressurised vessels and systems or vacuum installations.

containments	Don't Know
Uses pressurised vessels or containments	Don't Know
Uses vacuum	Don't Know



EDIT

Step 9 : Section "Funding"

If you already know (or at least plan) to use funding via the EURO-LABS project, please indicate so during your beam request so we can later match your request to the approval form and reference.

If you have any questions regarding this EU project, please consult the homepage or (with respect to questions regarding the PS & SPS accelerator related workpackages) please direct your questions to the PS & SPS physics coordinator. Further details concerning the Beamline for Schools has traditionally used the T9 beamline zone requested accelerator(s)

Activity	Beam Properties	Hardware and Setup	Runs and Schedule	Safety	Funding	Submit	
----------	-----------------	--------------------	-------------------	--------	---------	--------	--

External Funding (EURO-LABS)

Starting with October 2022, the **EURO-LABS project** https://web.infn.it/EURO-LABS/ (EU Grant Agreement 101057511) aims, among others objectives, to provide efficient access to the available resources at a major fraction of EUROpean Laboratories for Accelerator Based Sciences.

Funding Information

As a participating Laboratory under WP 4.1 and WP 4.4 (PS & SPS, test beams), please indicate to us if you already have or intend to apply for external funding under this initiative for your beam request:

Funding application	Plan to apply for EURO-LABS Transnational Access (TA) funding
Your funding application reference 🛛 😧	
Your questions 🛛 🕢	
Actions	OUPDATE A CANCEL



Step 10 : Section "Submission"

- During the submission process, it will be verified
 - That the minimum necessary amount of information is present
 - Whether the total amount of beam time requested required approval from a committee (plus fields to give this information)
 - You will be required to confirm that you have read & well understood the safety related rules and regulations, as displayed on the page of the EP-TH Safety group:
- https://ep-th-safety.web.cern.ch/ node/33388

Overview



Two steps are required before successfully submitting the beam request: 1. Please perform a check to verify that your request is complete and contains all necessary information

 Finally, you are required to confirm on behalf of your activity that you have read and well understood the Early Safety Instructions for Temporary Experiments (SSO / Login required!).



? VERFIY

Troubleshooting Tips & Tricks

- Please try to use a recent Firefox, Chrome, Chromium, or similar Browser. IE in all its incarnations seemed to work, but has not been tested extensively.
- If you do not use the page for a longer period of time, the internal session can time-out => Reloading the page and reopening the section usually works
- We are working on fixing any bugs that are still present, many thanks for your help by reporting any issues or glitches you may notice.

Many thanks for your Attention!

Remember: Please contact me in case of any questions or problems,

Martin Schwinzerl Martin.schwinzerl@cern.ch

Phone: +41227667069

Mattermost: PS & SPS User Management https://mattermost.web.cern.ch/signup_user_co mplete/?id=77ufn4m4ntbttfba8ywaxwhfxa

I am also very happy to arrange a zoom meeting with you to tackly your issues interactively and with screen sharing





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