Screening Tab

The Screening tab in JBluIce-EPICS application is designed to accommodate automated screening of selected samples with limited or no human intervention. The Screening tab consists of various options to choose from and these are explained in detail.

		Raster	Collect	Screening			Log		
nt/snare 1/t	user0/ALS_te	emplate_save	d.> Imp		ite Spreadshee		Export	F7 MountNextXtal	
elect Ne	ext-> Port	CrystallD	Directory	.	Comment	Res	olution	Scc F3 Paused4Inspection	A History
\bigcirc	F3	F3	F3					F7 MountNextXtal	-0:
8	F4	F4	F4					F7 CenterXtal	-1:
0	F5	F5	F5					F7 Paused4Center	-3:1
8	F6	F6	F6					F7 Rotate0	-4:
1 📫	F7	F7	F7					F7 Collect0	-5:
	F8	F8	F8					= F7 Rotate90	= -6: ∣
	F9	F9	F9					F7 Collect90	-7: n
	F10	F10	F10					F7 Paused4Inspection	-8: n
				Actions	D Puck E		All Clear	Clear color code Mounted	
Collection P /mnt/share Current p	el/user0/soft osition Goni	ttest/5_27_10 0 = 90.901 r = 600.000	Browse	Actions	Mount Next Cry Auto Centering Pause4Center		 Crystal 	Robot	Pause Mount
/mnt/share	1/user0/soft osition Gonid Detector	o = 90.901		Actions	Nount Next Cry Auto Centering Pause4Center	stal		Robot Ready	Pause
/mnt/share Current p	el/user0/soff osition Gonia Detecto Attenuation	o = 90.901 r = 600.000		Actions	Nount Next Cry Auto Centering Pause4Center	stal	O Crystal	Robot Ready	Pause Mount
/mnt/share Current p Detector D	el/user0/soff osition Gonia Detecto Attenuation	o = 90.901 r = 600.000 n = 998.727	Browse	Actions	4ount Next Cry Auto Centering Pause4Center peg	stal Coop	O Crystal	Robot None +	Pause Mount
/mnt/share Current p Detector D Settings	el/user0/soff osition Gonin Detector Attenuation Distance(mm	p = 90.901 r = 600.000 n = 998.727 n): 500.000	Browse	Actions	Mount Next Cry Auto Centering Pause4Center peg Collect Image	Stal ⊙ Loop	Crystal	Robot Ready None + Unmount Status Current : SMR: ready	Mount Gripper Warmu
/mnt/share Current p Detector D Settings Delta(deg)	el/user0/soff osition Gonia Detecto Attenuation Distance(mm): 1.0	b = 90.901 r = 600.000 n = 998.727 n): 500.000 Expose(sec)	Browse	Actions	Aount Next Cry Auto Centering Pause4Center peg Collect Image Collect Image Collect Image	stal ○ Loop 0.0 ▼ 45.0 ▼ 90.0 ▼	O Crystal 1 ⁺ / _₹ 1 ⁺ / _₹	Robot Ready None +	Mount Gripper Warmu
/mnt/share Current p Detector D Settings Delta(deg)	el/user0/soff osition Gonin Detector Attenuation Distance(mm	p = 90.901 r = 600.000 n = 998.727 n): 500.000	Browse	Actions	Nount Next Cry Auto Centering Pause4Center peg Collect Image Collect Image	stal ○ Loop 0.0 ▼ 45.0 ▼ 90.0 ▼	Crystal	Robot Ready None + Unmount Status Current : SMR: ready	Mount Gripper Warmu

Fig 1: Screening tab in JBluIce-EPICS

Spreadsheet Instructions

Screening in JBluIce-EPICS requires a Microsoft <u>Excel Spreadsheet file</u> to be loaded prior to using the automounter. Templates are available at the GM/CA CAT's website through the above link or in the user's home directory. The files are Rigaku_template.xls for Rigaku pucks and ALS_template.xls for ALS pucks or SSRL UniPucks respectively.

A typical spreadsheet is as shown in Fig 2. The ALS template consists of 96 rows while the Rigaku template consists of 72 rows. **Do not alter the number of rows in the spreadsheet** as this is used to determine the puck style that is loaded. Only three columns in the spreadsheet are essentially used by the screening system, namely, the Port, Crystal ID and the Directory (an explanation is given in the table). Other columns in the spreadsheet may either be populated with user information or left blank.

- **Port** refers to a position in the puck. The robot will use this port to retrieve the sample. **Don't change this column**
- CrystalID this label is used by the screening system to generate filenames. A unique ID must be used for each sample.
- **Directory** If provided, this field will be used to generate subdirectories for each sample under the root screening directory. The default template Excel spreadsheet uses the **Port** as the subdirectory name.

•			4	LS_templat	e.xls (read-oi	nly) - OpenOffice.c	org Calc				
<u>F</u> ile	<u>E</u> dit	: <u>V</u> iew <u>I</u> nsert F <u>o</u> rma	t <u>T</u> ools <u>D</u>	ata <u>W</u> indow	<u>H</u> elp						
	• [5 6 0 7 1 8 6		*** × 🗊 I		• 🖗 • 🔊 🖏 Zia	🖉 🕼 🛛 🕸 🔶	5 Q (9.		
A1:	4M J 1	- <i>f</i> ω Σ	= Port								_
	A		С		E	-	G	H	1		
1	Por	t CrystallD	Protein	Comment	Directory	FreezingCondition	CrystalCondition	Metal	Priority	Person	
2		A1			A1						
3	A2	A2			A2						T
4	A3	A3			A3						
5	A4	A4			A4						
6	A5	A5			A5						
7	A6	A6			A6						
8	A7	A7			A7						
9	A8.	A8			A8						
	F)(FI),	Sheet1		L	4						•
Shee	et 1 /	1 PageStyle	Sheet1		STD		Sum=0	6)		09

Fig. 2: A Typical spread sheet

Importing Spread Sheet

/mnt/share1/user0/ALS_template_saved.>	Import	Update Spreadsheet	🔲 📎 Edit	Export	
--	--------	--------------------	----------	--------	--



A spreadsheet is loaded by clicking the "Import" button; it pops up a Webice login form (Fig. 4). Entering a password and hitting submit initiates the Webice software that can provide crystal scoring and data collection strategy. Detailed information on Webice is available at:

http://smb.slac.stanford.edu/facilities/remote_access/webice/

Users can proceed without initiating Webice by clicking on the Cancel button.

🔲 Weblce Login form 🗙				
User Name:	user0			
Password:				
Submit	Cancel			
Press Cancel and proceed, if you don't want to use Weblce				

Fig. 4

In either case, you will be prompted to a window as shown in Fig. 5, for selecting the spreadsheet. Make sure that you are opening from your home directory and have the read/write permissions.

<u>P</u> laces	Name	▼ Modified
🙀 user0	☑ softtest	10/22/09
😻 Desktop	📁 thumbnails	Yesterday
🗇 File System	📁 webice	12/03/08
loppy Drive	📁 📁 xtal_info	07/10/08
	ALS_naga_template.xls	10/11/09
	ALS_template.xls	02/25/09
	GMCA_ALS_template.xls	11/13/08
	Rigaku_template.xls	02/25/09
4	🕞 jsmith49672.xls	08/21/09

Fig. 5

Choosing samples for screening

Once the spreadsheet is loaded users can choose to mount the samples in any order. The order of clicking the check box determines the order of sample selection. A number appears next to the check box indicating the order in which the samples will be screened. For example, according to sample selection on Fig. 6, samples will be screened in the order A3, A5, A9, A6, and A4.

Sele	ct	Next->	Port	CrystallD	Directory	Comment	Protein	Images 📤
			A2	A2	A2			
√	1 🛛	\geq	A2 A3	A2 A3	A2 A3			
✓	5	*	A4	A4	A3 A4			
	2		A5	A5	A5			
	4		A6	A6	A6			
			Α7	Α7	Α7			
			A8	A8	A8			
√	3		A9	A9	A9			•
4			III					Þ

Editable Spreadsheet





Certain columns could be edited after the spreadsheet has been imported. Checking the edit box highlights the columns editable in the loaded spreadsheet shown with the green 'tag' symbol. Modified and updated spreadsheet could be saved in the xls format by clicking on the "export" button. Screening spreadsheet also saves the edited content automatically, it is achieved in two different ways depending on whether Webice is invoked or not.

If Webice is invoked - every time a cell/row is edited it will post the information to Webice. The user has to click on "Update Spreadsheet" to get back both edited information as well as Webice information.

If Webice not invoked – Upon editing, the information is automatically saved in the file with extension "_saved.xls". The user will have to import this saved file to see all the edits.

Upon clicking the "export" button, it pops up a window (Fig 7), to rename the file and to choose the directory to save. Also when ever the spreadsheet is edited the spreadsheet is saved into the home directory with extension "_saved.xls". In the above example the name of the saved file is ALS_template_saved.xls

X <@bl3ws5.gmca.aps.anl.gov>						
<u>N</u> ame: result	s.xls					
Save in <u>f</u> older: 🔞 use	er0	\$				
\bigtriangledown Browse for other for	ders					
1 🔞 user0		Create Folder				
<u>P</u> laces	Name	▼ Modified				
🔞 user0	📂 A4	Monday				
😻 Desktop	📁 A5	Monday				
🗇 File System	📁 ВЗ	11/11/09				
	DATA	10/22/09				
	😻 Desktop	10/11/09				
	📁 axis_snapshots	11/03/09				
	📁 bluice_temp	Today				
	emove	Excel Files 🖨				
		X <u>C</u> ancel				

Fig. 7

Choosing a parent data directory and data collection parameters

Collection Parameters
/mnt/share1/user0/softtest/5_27_10 Browse
Current position
Gonio = 90.901
Detector = 600.000
Attenuation = 998.727
Detector Distance(mm): 500.000
Settings
Delta(deg): 1.0 Expose(sec): 1.0
Attenuation(factors): 50.00

Fig. 8

Data collection directory could be chosen by having the appropriate path specified in directory field. By default the directory displayed will be the home directory for your username which in general is "/mnt/share#/user". The path chosen will be the parent data directory and the directory information specified in the spread sheet in the "Directory" column will become the subdirectory of this parent directory where the diffraction images will be saved. Data collection parameters such as Detector distance, Delta (oscillation angle), exposure time and Attenuation can be specified in the respective fields as shown in Fig 8.

Tasks to be performed on any given sample

Actions	5	Task Progress
0 📦	🗹 Mount Next Crystal	A4 MountNextXtal
0	☑ Auto Centering ③ Loop ○ Crystal	A4 Paused4Center
0	✓ Pause4Center	A4 Rotate0
	Jpeg	A4 Collect0
0	☑ Collect Image 0.0 💌 🗍 🚽	A4 Rotate90
0	Collect Image 45.0 💌 1 🛓	A4 Collect90
0	☑ Collect Image 90.0 💌 📘 🚔	A4 Paused4Inspection
0	✓ Pause4Inspection	
	Start Resume	





As shown in Fig 9a, you could choose the tasks that you want the system to perform on any given sample. "Mount Next Crystal" is the default option. "Auto Center crystal" will use the software "XREC" to center the loop or the crystal (as chosen) in the beam. If you prefer to center the crystal yourself, you should de-select the "Auto Center" option and choose "Pause4center", this way the system will wait for the user to center the sample. Up to 3 diffraction images at desired angles could be collected. In addition to taking diffraction images, snapshots of the crystal (High-resolution camera only) at the desired angles are taken if 'Jpeg' option (Fig. 9a) is checked. A complete list of tasks that will be carried out for each sample can be seen as listed in Fig. 9b.

Fig. 10

The puck type indicator informs the user of the current Robot setup, if this is different from your puck type contact the support staff before you start anything. Warning: Puck type mismatch could cause severe damage to the automounter gripper. Puck type should show "ALS" for ALS/Unipuck style pucks and "Rigaku" for Rigaku (MSC) style pucks.

Choosing "pause4inspection" waits for the user to decide whether or not to move to the next crystal. Clicking "Resume" will mount the next crystal, if you want to continue on the mounted crystal then you have 2 options. a) If you want to collect data on the mounted crystal, go to the collect tab and set up for data collection. b) If you want to redo one or several tasks from the "Actions" task list just click on the left side of the task of interest (the green arrow will move to the task of interest) and hit "Resume", this will redo the selected task of interest and the subsequent checked tasks until it reaches "pause4inspection" again. This way you can recollect individual diffraction images with a new set of parameters than previously taken.

The users have the ability to modify the sequence of the tasks being done even while the system is in operation. So be careful in what you do.

<u>Robot</u>

Robot section indicates the current status of the Robot. The Robot will have to be in the "Ready" state to perform any action; the Ready button with green border indicates the robot is ready. The Robot switches to "Pause" state automatically if it encounters any Errors (ERR).

Manual options are available for users who do not wish to use the spreadsheet. The user can select the sample of interest from the drop down box shown in Fig 11 (showing "None" with up and down arrows) and click on mount button. Unmounting the sample is obviously done by clicking on the Unmount button. A manual gripper warm up can be performed by clicking on the Gripper warm-up button.

Fig. 1	1
Ready	Pause
None 🔷	Mount
Unmount	Gripper Warmup

Automounter Status

Status	
Current :	SMR: ready
-1 :	pause
-2 :	SMR: ready



Current automounter task and the previous two tasks of the Automounter are displayed in the Screening tab for the benefit of the users. Current status according to the example shown in Fig 12 is that the gripper is getting warmed up and the warm up cycle has 3 seconds more. The -1 and -2 are the two previous tasks. The following error status will be seen if the automounter encounters any problems, as mentioned earlier the Robot will in "Pause" state when this happens. Explanation on the automounter errors will be handled in the later part of the manual.



 Status

 Current : pause

 -1 : ERR: check_pin:empty

 -2 : gripper cold, 10.000V <= 12.50</td>

Mounted History

History
-
-0: F7
-1: F3
-2: F6
-3: F5
-4: F4
-5: F3
-6: F3
-7: F3
-8: none
-9: none
Fig. 14

Mount history of the past 10 mounts are shown for the benefit of the users. -0 represents the last mounted sample.

Mount YAG and Alignment pins

Separate buttons are available for easy mounting of YAG and alignment pin placed inside the Dewar. YAG crystal is used for the alignment of the beam and the alignment pin is used for correcting the center of rotation of the goniometer. The positions of these are predetermined by the Staff.

Mount									
Ya	g	F2	Alignment Pin	FЗ					
Fig. 15									

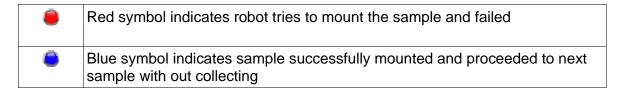
Sample Screening

	Sample	Raster	Collect	Scree	J	Users	Log			
nt/share1/u	user0/ALS_te	emplate_save	ed.> Imp	oort	Update Spreadshee	t 🔲 🗞 Edit	Export		F7 MountNextXtal	
elect Ne	ext-> Port	CrystallD	Directory	/	Comment	Re	solution	Scc	F3 Paused4Inspection	History
0	F3	F3	F3						F7 MountNextXtal	-0: F -1: F
8	F4	F4	F4						F7 CenterXtal	-2: F
0	F5	F5	F5						F7 Paused4Center	-3: F
0	F6	F6	F6						F7 Rotate0	-4: F
1 📫	F7	F7	F7						F7 Collect0	-5: F
	F8	F8	F8						F7 Rotate90	≡ -6: F
	F9	F9	F9					-	F7 Collect90	-7: no
	F10	F10	F10							-8: no
		uck A 🗌 Pu		Actions			🗆 All 🛛 Clear	Clear	F7 Paused4Inspection	
Collection Pa	: ALS 🗌 P Parameters		ick B 🗌 Pu				🗆 All 🗌 Clear	Clear	color code Mounted :	F3
ollection Pa /mnt/share	: ALS 🗌 P Parameters	Puck A	ick B 🗌 Pu	Actions			All Clear	Clear	color code Mounted :	
ollection Pa /mnt/share	: ALS Parameters I/user0/soft osition		ick B 🗌 Pu	Actions	Mount Next Cry	stal		Clear	color code Mounted : ot Ready	F3
Collection Pa /mnt/share	: ALS P Parameters 21/user0/soft osition Gonic Detector	test/5_27_10 0 = 90.901 r = 600.000	ick B 🗌 Pu	Actions	Mount Next Cry Auto Centering Pause4Center	stal		Clear Clear	color code Mounted : ot Ready	F3 Pause Mount
Collection Pa /mnt/share	: ALS P Parameters 21/user0/soft osition Gonic Detector	test/5_27_10 p = 90.901	ick B 🗌 Pu	Actions	Mount Next Cry	stal	O Crystal	Clear Clear	color code Mounted : ot Ready ne + Unmount Gr	F3 Pause Mount
ollection Pa /mnt/share Current po	: ALS P Parameters 21/user0/soft osition Gonic Detector	ttest/5_27_10 b = 90.901 r = 600.000 h = 998.727	ick B 🗌 Pu	Actions	Mount Next Cry Auto Centering Pause4Center	stal) 1 +	Clear Clear	color code Mounted : ot Ready ne ; Unmount Gr	F3 Pause Mount
ollection Pa /mnt/share Current po Detector D	: ALS P Parameters el/user0/soft osition Gonic Detector Attenuation	ttest/5_27_10 b = 90.901 r = 600.000 h = 998.727	Ick B Pu	Actions O D O	Mount Next Cry Auto Centering Pause4Center Jpeg	stal O Loop	O Crystal	Clear Clear	color code Mounted : ot Ready ne + Unmount Gr	F3 Pause Mount
ollection Pa /mnt/share Current po Detector D Settings —	: ALS P Parameters 21/user0/soft osition Gonic Detector Attenuation Distance(mm	ttest/5_27_10 b = 90.901 r = 600.000 h = 998.727	Ick B Pu Browse	Actions O O O	Mount Next Cry Auto Centering Pause4Center Jpeg Collect Image	Stal O Loop) 1 +	Clear Clear	color code Mounted : ot Ready ne Unmount Gr tus urrent : SMR: ready	F3 Pause Mount Ipper Warmup
ollection Pa (mnt/share Current pa Detector D Settings Delta(deg)	: ALS P Parameters 21/user0/soft osition Gonic Detector Attenuation Distance(mm): 1.0	ttest/5_27_10 p = 90.901 r = 600.000 n = 998.727 n): 500.000	Ick B Pu Browse	Actions	Mount Next Cry Auto Centering Auto Centering Pause4Center Jpeg Collect Image Collect Image	Stal	• Crystal	Clear of No	color code Mounted : ot Ready ne Unmount Gr tus trrent : SMR: ready : warm_up, -3 s m	F3 Pause Mount ipper Warmup
iollection Pr /mnt/share Current pr Detector D Settings Delta(deg) Attenuation	: ALS P Parameters 21/user0/soft osition Gonic Detector Attenuation Distance(mm): 1.0	test/5_27_10 p = 90.901 r = 600.000 n = 998.727 n): 500.000 Expose(sec	ick B Pu Browse	Actions O O O O O O O	Mount Next Cry Auto Centering Auto Centering Pause4Center Jpeg Collect Image Collect Image Collect Image	Stal	• Crystal	Clear of Robo	color code Mounted : ot Ready ne Unmount Gr tus trrent : SMR: ready : warm_up, -3 s m	Pause Mount
iollection Pa /mnt/share Current pa Detector D Settings Delta(deg) Attenuation	: ALS P Parameters el/user0/soft osition Gonic Detector Attenuation Distance(mm): 1.0 n(factors):	test/5_27_10 p = 90.901 r = 600.000 n = 998.727 n): 500.000 Expose(sec 50.00	ick B Pu Browse	Actions O O O O O O O	Mount Next Cry Auto Centering Auto Centering Pause4Center Jpeg Collect Image Collect Image Collect Image	Stal) Crystal	Clear of No	color code Mounted : ot Ready ne Unmount Gr tus trrent : SMR: ready : warm_up, -3 s m : SMR: ready	F3 Pause Mount ipper Warmup ore
ollection Pa mnt/share Current po Detector D Settings Delta(deg) Attenuation	: ALS P Parameters e1/user0/soft osition Gonic Detector Attenuation Distance(mm): 1.0 n(factors):	test/5_27_10 p = 90.901 r = 600.000 n = 998.727 n): 500.000 Expose(sec	ick B Pu Browse	Actions O O O O O O O	Mount Next Cry Auto Centering Pause4Center Jpeg Collect Image Collect Image Collect Image Collect Image Pause4Inspection	Stal ○ Loop 0.0 ▼ 45.0 ▼ 90.0 ▼ on) Crystal	Clear of No	color code Mounted : ot Ready ne Unmount Gr tus trrent : SMR: ready : warm_up, -3 s m	F3 Pause Mount ipper Warmup ore

Fig. 17

Choose the samples to be screened, choose the tasks, screening is initiated by clicking on the "Start" button. Automounter status will give you information on the current task performed by the automounter (area within red border of Fig 17). The current sample mounted will be highlighted in green (Fig 17) on the spreadsheet. The current screening task being performed will be highlighted in green in the task list (Fig 17). If "pause4center" or "pause4inspection" have been chosen, the system will wait for user intervention with the "Resume" button. A yellow bar in the spread sheet means that sample has been chosen to be mounted next and the command line also has "load ##" (area within green border of Fig 17). As shown in the figure 17 the present sample mounted is A4 (green background on the spread sheet, sample status mounted: A4).

Color codes are assigned to screened samples and the following table explains the meaning of the color code associated with a sample.





Several sets of images can be collected on a certain mounted sample. While the automounter is awaiting user input during "pause4center" or "pause4inspection", it is possible to recollect diffraction images on this sample by moving the arrow mark to the task of interest and clicking on the 'Resume' button (in the action window). The sets are named according to the order of collection. Ex : First set of images will be named test_1_0.####, second set image named test_2_0.####.

Robot Errors

Any time a Robot error occurs, the automounter will switch to the PAUSE state with error message displayed in the Robot status area (marked with red border in fig. 18). Error messages appear in red, ex:. ERR:recover:pin@gonio. When communicating with your host, report the status or problems with the robot by reading these messages. You or your host will then be able to focus in and resolve the problem.

Common Problems and Solutions:

- Problem: The robot stops working and goes to pause.
 Solution: Try switching from Pause to Ready by pressing the Ready button. Often times this resolves simple problems.
- 2) **Problem**: Robot consistently has problems in mounting or dismounting the bases into the Dewar.

Solution: Inform your host of this problem. You could also check to see if the pucks were loaded correctly and that you are using the correct pin bases.

3) Problem: Gripper repeatedly fails to unmount the sample on the Goniostat. **Solution:** Contact host and notify him of this problem. The host might be able to solve this problem by adjusting the gripper warm-up parameters.

		Bluice-EPI	CS: Beamli	ne ID-B Versi	on Beta Bui	id 2519 *Sc	an Tab Mode	= Simulation*	
<u>F</u> ile <u>N</u> etwo	ork <u>O</u> ptions	<u>H</u> elp							
Hutch	Sample	Raster	Collect	Screening	Scan	Users	Log		
/mnt/share	e1/user0/ALS_t	emplate_save	ed.) Imp	ort	e Spreadshee	🗖 🗆 🕓 Edit	Export	A2 SampleLoadFailed	
Select	Next-> Port	CrystallD	Directory	Co	omment	Re	solution	Scc 🖹 Task Progress	History
	A1	Al	A1	your co	omment here			A2 MountNextXtal	-0: F7
2 🔒 1	🔶 A2	A2	A2					A2 CenterXtal	-1: F3 -2: F6
	A3	A3	A3					A2 Paused4Center	-2: F0 -3: F5
	A4	A4	A4					A2 Rotate0	-4: F4
	A5	A5	A5					A2 Collect0	-5: F3
	A6	A6	A6					A2 Rotate90	-6: F3
	A7	Α7	A7					A2 Collect90	-7: F3
	A8	A8	A8					A2 Paused4Inspection	-8: none
•	III								-9: none
/mnt/sh	n Parameters are1/user0/sof	"ttest/5_27_10	Browse		ount Next Cry			Robot Ready	Pause
Curren	Detecto	o = 0.000 r = 500.001 n = 49.965			ito Centering use4Center eg	O Loop	 Crystal 		ount r Warmup
Detect	or Distance(mr	n): 500.000	•		ollect Image	• 0.0		Status Current : pause	
Setting	s			0 🗆 Co	ollect Image	45.0 ▼		current: pause	
Delta(d	leg): 1.0	Expose(sec	:): 1.0	○ ☑ Co	ollect Image	90.0 🔻	1	-1 : ERR: check_pin:empt	y
Attenua	ation(factors):	50.00	•	⊖ 🗹 Pa	use4Inspectio	in		-2 : gripper cold, 10.000V	<= 12.50
Mount Yag F2 Alignment Pin F3					Start	Resume		Command : load A A 2	
[11:17:35] ERROR: Sample Load failed 🗧									
APS Current 100.1 Shutter Permit Disabled A Shutter Closed Endstation Shutter Closed Endstation Secure No									
State: Idle ETA: EMERGENCY STOP Mono: 12.000 keV IZero: 1.64 V Control: Active Shutter: Closed									

Fig 18

Webice

Screening Tab is integrated with Webice (Crystal scoring/Data collection strategy). The software queries for a password (same as user password) on hitting the 'Import' button, given the correct password Webice is authenticated. After the successful data collection of 2 diffraction images which are apart by at least 5 degrees, Webice autoindexes and calculates parameters like cell, mosaicity, predicted resolution, crystal score, etc. The Webice information is updated to the screening spreadsheet on clicking the "**update spreadsheet**" button. Detailed information on Webice is available at http://smb.slac.stanford.edu/facilities/remote_access/webice/

The edited information and Webice results can be exported to an Excel file by clicking on 'Export' Button