



Shot Setup Tool 1.3: Status and Tutorial

Presented to the NIF User Forum

Shot Configuration Team
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Agenda

- At a glance - Changes since SST-1.0
- Setting data group default values
- Tagging "Important" templates
- Configuring data group display
- SPBT express setup
- TANDM 90-348 with passive diagnostics
- DIM External Mounted Diagnostics
- Upcoming developments
- Questions for Shot Ris
- Demonstration



At a glance – Changes since SST-1.0

■ SST-1.1

- Migrated SPBT with new express setup
- Deployed initial setup support for Gas Cherenkov Detector (GCD) and Glint Fast Diode (GFD)
- Experiment locking controls for Shot RI team

■ SST-1.2

- Deployed initial setup support for TANDM 90-348 with passive TD's
 - Empty Airbox, Passive Snout GXD/HGXD/DISC, External mounted TD's
- Data group defaults now inherited from a template maintained by RS
- “Important” template tagging for diagnostic RS'
- SPBT automated attenuator support

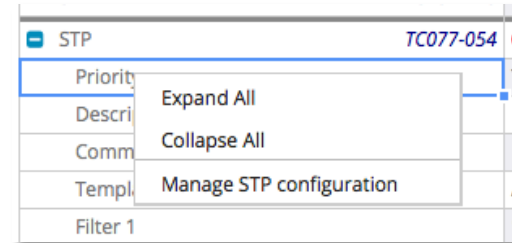
■ SST-1.3

- Deployed initial setup support for Shot Time Photography (STP)
- Added data group display control to profile settings

Parameters		E STest_SST13_S01	
Data Groups		No Shot	
EHXI	TC090-110	● Not Used	USE
FFLEX	TC090-110	● Not Used	USE
GCD	TC064-275	● Not Used	USE
GFD	TC090-315	● Not Used	USE
SPBT	TC161-146	● Not Used	USE
STP	TC077-054	● Not Used	USE
DIM Configuration (090 348)	TC090-348	● Not Used	USE
DIM External Mounted Diagnostics			
DIM (TC090-348)			
Position 1		None	▼
Position 2		None	▼
Position 3		None	▼
Position 4		None	▼

Setting data group default values

- For Data Group Approvers (i.e., Diagnostic RS')
- Raise the context menu from the Parameters column and select "Manage [data group name] Configuration"
- On the Manage Settings dialog, enter the name of the template to pull default settings from
- Choose "Apply as template" to initialize the data group explicitly as having had a template applied (i.e., especially if the default settings template is golden); choose "Apply as values to populate the settings without explicitly applying a template"

A screenshot of the 'Default Template' dialog box. The dialog has a title bar 'Default Template'. Inside, there is a text box with instructions: 'Choose a template to provide the default values for this Data Group. You can choose to either apply the defaults as a template, which will show validation warnings to a user when any fields contained in the template are modified, or to simply copy the values. Changing the 'Default Template' will **not** immediately apply the new values to this Data Group. These settings will be applied in the future whenever a new Data Group of this type is created, or when the context menu option, "Set to defaults..." is selected.' Below the text box is a dropdown menu showing 'Apodizer_plus_ND1'. At the bottom, there are two radio buttons: 'Apply as template' (which is selected) and 'Apply as values'.

Tagging "Important" templates

- For Data Group Approvers (i.e., Diagnostic RS')
- Tagging a template as Important gives it higher view priority in the "Apply Template" dialog

Select a template to apply GFD from

☐ Show Open Templates

Golden	Important	Name	Modified	Created	Creator
Golden		SSSS_5350	03/16/2017 15:31 PM	03/16/2017 15:31 PM	spears20
	Important	DES_01	06/06/2017 18:41 PM	06/06/2017 18:36 PM	speck2
	Important	misha_gfd		05/25/2017 14:14 PM	shor2
		first_gfd_template		02/28/2017 12:40 PM	Anonymous
		SSSS_5273_2		03/01/2017 09:06 AM	spears20
		CMT_351_Test_Template_03			
		ms_gfd_1			
		misha_gfd_2			

Manage Template

☐ Golden Template
☒ Important

Minimum Expected Yield:

Maximum Expected Yield:

Cancel Save

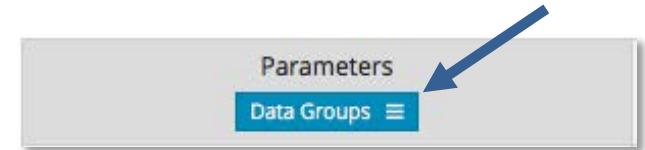
Cancel Apply and Save

DES_01 GFD

- Save
- Validate
- Set to defaults...
- Remove from use
- Reload...
- Apply GFD template...
- Clone GFD from...
- Create template from GFD...
- Delete
- Manage Template...
- Log Data Group JSON
- Help

Configuring data group display

- Launch the data group loader configuration modal from the Parameters header cell
- All data groups displayed by default
- Enter a string in the Filter to sub-select which data groups to operate on (matches anywhere in Location or Label fields; case insensitive)
- Turn off data group display by unchecking the box
- “Select All” and “Clear” operate on the visible data groups
- Configuration is saved per profile



Select Data Groups to display in the editor ✕

Filter ✕ ✓ Select All ✕ Clear

	Location	Label
<input checked="" type="checkbox"/>	TC090-110	EHXI
<input checked="" type="checkbox"/>	TC090-110	FFLEX
<input checked="" type="checkbox"/>	TC064-275	GCD
<input checked="" type="checkbox"/>	TC090-315	GFD
<input checked="" type="checkbox"/>	TC161-146	SPBT
<input checked="" type="checkbox"/>	TC077-054	STP
<input checked="" type="checkbox"/>	TC090-348	DIM Configuration (090 348)
<input checked="" type="checkbox"/>		DIM External Mounted Diagnostics

Close

SPBT express setup

- To initialize the entire setup, select “Apply Default Template” and enter an expected bang time (else the express setup will only update the scope attenuations)
- Enter a Reference Experiment ID to provide reference attenuation settings
- Enter a scale factor for each FTD scope attenuation setting
- Review scaled attenuation result then select “Apply & Save” to populate into experiment
- With new automated attenuators, each scope takes a single setting on [-62, 0]

SPBT Express Setup

This express setup allows you to scale the attenuation on each scope from a previous reference setup. The new attenuation will be rounded so that the scaled attenuation is greater than or equal to (in magnitude) the reference attenuation multiplied by the scale factor.

Default Template

☒ Apply Default Template

Bang Time (ns)

5

Setup Scaling

Reference Shot

Fa_Diag_HohlEngg_S08 (N170427-002-999)

[View X-Ray Yield \(Unavailable\)](#)

Scale Attenuation

FTD Scope 1

1

FTD Scope 2

2

FTD Scope 3

3

FTD Scope 4

1

FTD Scope 5

1

Results















Scope	Reference Attenuation	Scaled Attenuation
1	0 dB	0 dB
2	-20 dB	-40 dB
3	-6 dB	-18 dB
4	0 dB	0 dB
5	0 dB	0 dB

Cancel

Apply & Save

TANDM 90-348 with passive diagnostics

- Like DIM setup in CMT but no active TD selections and no other diagnostics inside the top level folder
- No GXD/HGXD/DISC folder will appear since no active configuration is available
- Default selections for subassemblies are empty – user must select

 DIM Configuration (090 348)	TC090-348	 Draft*
Description		
Comment		
Template Applied	NONE	
 Aimpoint Coordinates	Cartesian	
DIM Load Package	Empty Airbox	
DIM Configuration Priority	GXD (Passive)	
	HGXD (Passive)	
	DISC (Passive)	
 DIM Configuration	Empty Airbox	
Snout Selection		
Snout Part Number		
Cart Part Number		
Airbox Part Number		
Magnification		
Aimpoint-to-pinhole-plane Distance (mm)	0	
Pinhole-plane-to-detector Distance (mm)	0	
Aimpoint-to-detector Distance (mm)	0	
Snout-tip-to-pinhole-plane Distance (mm)	0	
Aimpoint-to-snout-tip Distance (mm)	0	
Roll Angle (deg)		
Rotation (deg)		
 Nose Cap Assembly (Position 1 - Closest to TCC)	Please select...	 
 Nose Cone Assembly (Position 1 - Closest to TCC)	Please select...	 
 Kinematic Base Assembly (Position 1 - Closest to TCC)	Please select...	 

DIM External Mounted Diagnostics

DIM Configuration (090 348)		TC090-348	<input type="radio"/> Not Used	USE
DIM External Mounted Diagnostics				
DIM (TC090-348)				
Position 1	None		▼	
Position 2	None		▼	
Position 3	None		▼	
Position 4	None			
<div>MPTOF Position 4 DIM(090 348) NAD - Position 4 DIM(090-348) PTOF Position 4 DIM(090 348) SGEMP - Position 4 DIM(090-348) SRC - Position 4 DIM(090-348) WRF Position 4 DIM(090 348) None</div>				

- All external mounted passive diagnostics (all positioners) will be configured within the “DIM External Mounted Diagnostics” folder
- Since only passive diagnostics are supported on 90-348, PTOF/MagPTOF recording system is not available

Upcoming developments

- Active diagnostics on TANDM (September)
 - 90-124 enabled first with active diagnostics (GXD, HGXD, DISC)
 - 90-348/active setup capability available also but not planned for shots until later
 - SST will automatically pull in instrument selections from Shot Planner if FLIP Id is present and data exists
- Polar DIM migrated from CMT along with TANDM/Active deployment in early September; 90-78 (incl. ARIANE, DIXI) then 90-315 (incl. NIS, VISAR, MRS) migrations to follow
- Requirements definition ongoing for SLOS, OTS-D, PTOF/MagPTOF, NBI-Q33B (w/ GigE cameras), CBI, 3/2 ω
- Alignment automation - support to access FRL design/metrology datasets from LoCoS to enable direct integration into pointing setups for target positioning, alignment locations, and beampointing
- Approval Manager performance becoming a significant issue; analysis ongoing to assess magnitude of needed changes

Questions for Shot RIs

- Experiment locking controls: have not deployed auto-locking to serialize changes among Shot RI team. Has this been a problem?
- Alignment automation: Given that beam aimpoints are currently editable in the CMT Laser Editor GUI, would it be preferable to leave them there with the laser setup or migrate them to SST to take advantage of the LoCoS dataset integration?

[Demonstration]



