



TANGO
Device
Server

MultiBunchCleaning User's Guide

MultiBunchCleaning Class

Revision: REL_0 - Author: pons
Implemented in C++ - CVS repository: ESRF

Introduction:

A class for the bunch by bunch cleaning in the SR

Class Identification:

- **Contact** : at esrf.fr - pons
- **Class Family** : BeamDiag
- **Platform** : Unix Like
- **Bus** : Not Applicable

Class Inheritance:

- Tango::Device_4Impl
 - MultiBunchCleaning

Properties:

Device Properties		
Property name	Property type	Description
LiberaDevice	Tango::DEV_STRING	Name of the LiberaAccess device
ConfigFilePath	Tango::DEV_STRING	Absolute path were config file are stored
ScrUpp25Device	Tango::DEV_STRING	Name of the scraper Upp25
ScrLow25Device	Tango::DEV_STRING	Name of the scraper Low25
ScrUpp5Device	Tango::DEV_STRING	Name of the scraper Upp5
ScrLow5Device	Tango::DEV_STRING	Name of the ScrLow5 device
ScrUpp22Device	Tango::DEV_STRING	Name of the scraper Upp22
VTuneDevice	Tango::DEV_STRING	Name of the vertical tune device

Device Properties Default Values:

Property Name	Default Values
LiberaDevice	No default value
ConfigFilePath	No default value
ScrUpp25Device	No default value
ScrLow25Device	No default value
ScrUpp5Device	No default value
ScrLow5Device	No default value
ScrUpp22Device	No default value
VTuneDevice	No default value

There is no Class properties.

States:

States	
Names	Descriptions
ON	The device is ON
MOVING	Cleaning is in progress
OFF	

Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
FreqMin	DEV_DOUBLE	READ_WRITE	No
FreqMax	DEV_DOUBLE	READ_WRITE	No
SweepTime	DEV_DOUBLE	READ_WRITE	No
Gain	DEV_SHORT	READ_WRITE	No
PatternOffset	DEV_SHORT	READ_WRITE	No
Gating	DEV_BOOLEAN	READ_WRITE	No
ConfigFileName	DEV_STRING	READ	No
Scrapers	DEV_SHORT	READ_WRITE	No
Upp5	DEV_DOUBLE	READ_WRITE	No
Low5	DEV_DOUBLE	READ_WRITE	No
Upp25	DEV_DOUBLE	READ_WRITE	No
Low25	DEV_DOUBLE	READ_WRITE	No
Upp22	DEV_DOUBLE	READ_WRITE	No
Horizontal_tune	DEV_DOUBLE	READ_WRITE	No
Vertical_tune	DEV_DOUBLE	READ_WRITE	No
RiseTimeBoost	DEV_DOUBLE	READ_WRITE	No

Spectrum Attributes			
Attribute name	Data Type	X Data Length	Expert
CleaningPattern	DEV_SHORT	992	No
CleaningPatternFPGA	DEV_SHORT	992	No

Commands:

More Details on commands....

Device Commands for Operator Level		
Command name	Argument In	Argument Out
Init	DEV_VOID	DEV_VOID
State	DEV_VOID	DEV_STATE
Status	DEV_VOID	CONST_DEV_STRING
StartCleaning	DEV_VOID	DEV_VOID
LoadConfigurationFile	DEV_STRING	DEV_VOID
SaveConfigurationFile	DEV_STRING	DEV_VOID
GetConfigurationFilePath	DEV_VOID	DEV_STRING
Sweep	DEV_VOID	DEV_VOID
EndCleaning	DEV_VOID	DEV_VOID

1 - Init

- **Description:** This commands re-initialise a device keeping the same network connection. After an Init command executed on a device, it is not necessary for client to re-connect to the device. This command first calls the device *delete_device()* method and then execute its *init_device()* method. For C++ device server, all the memory allocated in the *nit_device()* method must be freed in the *delete_device()* method.
The language device desctructor automatically calls the *delete_device()* method.
- **Argin:**
DEV_VOID : none.
- **Argout:**
DEV_VOID : none.
- **Command allowed for:**
 - Tango::ON
 - Tango::MOVING
 - Tango::OFF

2 - State

- **Description:** This command gets the device state (stored in its *device_state* data member) and returns it to the caller.
- **Argin:**
DEV_VOID : none.
- **Argout:**

DEV_STATE : State Code

- **Command allowed for:**

- Tango::ON
- Tango::MOVING
- Tango::OFF

3 - Status

- **Description:** This command gets the device status (stored in its *device_status* data member) and returns it to the caller.

- **Argin:**

DEV_VOID : none.

- **Argout:**

CONST_DEV_STRING : Status description

- **Command allowed for:**

- Tango::ON
- Tango::MOVING
- Tango::OFF

4 - StartCleaning

- **Description:** Starts the cleaning

- **Argin:**

DEV_VOID :

- **Argout:**

DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::MOVING
- Tango::OFF

5 - LoadConfigurationFile

- **Description:** Loads a configuration file

- **Argin:**

DEV_STRING : Configuration file name (without the path)

- **Argout:**
DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::MOVING
- Tango::OFF

6 - SaveConfigurationFile

- **Description:** Save a configuration file
- **Argin:**
DEV_STRING : Configuration file name (without the path)

- **Argout:**
DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::MOVING
- Tango::OFF

7 - GetConfigurationFilePath

- **Description:** Returns the absolute confiration file path

- **Argin:**
DEV_VOID :

- **Argout:**
DEV_STRING : Configuration file path

- **Command allowed for:**

- Tango::ON
- Tango::MOVING
- Tango::OFF

8 - Sweep

- **Description:** Start sweep (Sweep from freqmin to freqmax)

- **Argin:**
DEV_VOID :

- **Argout:**
DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::MOVING
- Tango::OFF

9 - EndCleaning

- **Description:** End the cleaning (restore scraper positions)

- **Argin:**
DEV_VOID :

- **Argout:**
DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::MOVING
- Tango::OFF

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