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Chapter 1. Project description

AlliGator: FLI Data Analysis

Chapter 2. Libraries

This section describes the libraries contained in the project.

2.1. AlliGator Accumulated Dataset.lvlib

Responsibility: Handles dataset summation tasks (sum or average).

Version: 1.0.0.0

2.1.1. Functions

Table 1. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Add Dataset to Accumulated Dataset	AlliGator IV DVR in Weight (1) error in (no error) AlliGator IV DVR out Output (s. 500) error out	Adds the Current Dataset to the Accumulated Dataset , if and only if the number of gates and channels are the same as those of the first dataset in the series.			
AlliGator Add Image to Accumulated Image	Image Name New Image Accumulated Image Sum (out) Dataset Index Error In Weight (1)	If not, the Current Dataset is skipped. Adds a single New Image (gate image) to the Accumulated Image Sum (for that gate). If the current Dataset Index is 0 (first dataset in the Series), the Accumulated Image Sum is cleared first.		M	
AlliGator Clear Dataset Series Sum	Data Value Reference in Otto Message error in (no error) Message error out	Clears the data structures associated with the Accumulated Dataset and resets the internal variable Is Displayed Image Accumulated to False.			
AlliGator Get Temp Accumulated File Name	Time-Series Folder temporary file name Averaged? filename without extension error in (no error) error out	Builds name of acccumulated or averaged dataset displayed in AlliGator's title bar.			
AlliGator Script Sum All Datasets in Folder	Single File? (Default: False) Alligator Queue Elements in Alligator Queue Elements out Path Alligator Queue Elements out Path Message Weights (Default: None) Index Offsets (Default: None)	Launches a series of steps loading each dataset in a series (including background correction) and adding them to a reset accumulated dataset. This script is followed by the usual series of steps after a new dataset is loaded (display, phasor plot update, phasor ratio or map overlay in image source and/or image ROI highlight in phasor plot).			

Reentrancy: \square \rightarrow Preallocated reentrancy $|\square$ \rightarrow Shared reentrancy

Inlining: → Inlined

2.1.2. Library Constant VIs

NOTE No Constant VIs Found

2.2. AlliGator Action Engine.lvlib

Responsibility: Handles AlliGator Event Queue, dispatching events to different handlers according to their category.

Version: 1.0.0.0

2.2.1. Functions

Table 2. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Action Loop	AlliGator Refnums AlliGator Ctrl Refnums Error In	AlliGator action dispatcher. Each action array is handled as a package, each action in the array being sent to the appropriate category (Files, Image, Phasor Graph, etc.).			
AlliGator Add Action Array to Stack	Alligator Queue Element 1	One of the two options of the polymorphic AlliGator Add Action(s) to Stack VI. Appends (or prepends) an array of actions to the current ones being processed or about to be queued.			
AlliGator Add Single Action to Stack	Alligator Queue Element 1	One of the two options of the polymorphic AlliGator Add Action(s) to Stack VI. Appends (or prepends) a single action to the current ones being processed or about to be queued.			
AlliGator Calibration Actions	Script in Alligator Q Element 1 (Alligator Queue Element 1 (Alligator IV DVR AlliGator Q Event in Data error in (no error) AlliGator Ctrl Refnums	Processes AlliGator phasor calibration-related actions.			
AlliGator Check for Abort	AlliGator Q Elements AlliGator Q Elements	Checks whether there is any Abort action in the input AlliGator Q Elements . If so, remove all other action items.			

Name	Connector pane	Description	s.	R.	I.
AlliGator Compute P2 vs P1 Plots	Lifetime Graph in AlliGator IV DVR in User Selection Phasor Frequency error in (no error) AlliGator IV DVR out Prum Place Phasor Frequency error out	Compute a (P1, P2) scatter plot for all selected phasor plots in the Phasor Graph and send them to the Lifetime & Other Parameters Graph. P1 & P2 are parameters associated with each plasor plot or derived from the phasor and/or phasor ratio references.			
AlliGator Current Event	AlliGator Q Event out Get(F)/Set	Get/Set current AlliGator action being processed.			
AlliGator Decay Actions	Script in VI in Script off AlliGator Q Elements in Script off AlliGator IV DVR in Data AlliGator Q Event in Data error in (no error) AlliGator Ctrl Refnums	Processes AlliGator decay-related actions.			
AlliGator Decay Fit Parameter Map Actions	Script in Vin Script out Vin AlliGator Q Elements out data value reference out AlliGator Q Event in Data Value Reference out Potata Value Reference out error in (no error) AlliGator Ctrl Refnums	Processes AlliGator decay fit parameter map-related actions.			
AlliGator Event to Event Category	AlliGator Q EventEvent Category	Extracts the category an AlliGator Q Event belongs to, in order to dispatch this event to the proper handler.			
AlliGator Event to String	Add Ellipsis (T) AlliGator Q Event Evision String	Converts AlliGator Q Event enum to the corresponding string.			
AlliGator Files Actions	Script in Vin Script out AlliGator Q Elements in AlliGator IV DVR AlliGator Q Event in Data error in (no error) AlliGator Ctrl Refnums	Processes AlliGator files-related actions.			
AlliGator Filter Event	Filtered Event Data Filter Event? Error In Error Out	Prevents adding an event to the main Action Queue if a similar event has been added less than Timeout ago, where Timeout is part of the Filtered Event Data .			
AlliGator FLI Dataset Actions	Script in Vi in Script out AlliGator Q Elements AlliGator IV DVR in AlliGator IV DVR out AlliGator Q Event in Data error in (no error) AlliGator Ctrl Refnums	Processes AlliGator FLI Dataset-related actions.			
AlliGator FLI Dataset Series Actions	Script in Vi in Script out AlliGator Q Elements AlliGator IV DVR in AlliGator IV DVR out AlliGator Q Event in Data error in (no error) AlliGator Ctrl Refnums	Processes AlliGator FLI Dataset Series-related actions.			

Name	Connector pane	Description	s.	R.	I.
AlliGator Generic Graph Actions	Script Vin Script out Vin AlliGator Q Elements out data value reference in Data Value Reference out AlliGator Q Event in Data Value Reference out error in (no error) AlliGator Ctrl Refnums	Processes AlliGator generic graph-related actions.			
AlliGator Get First Event	AlliGator Q Elements AlliGator Q Elements AlliGator Q Event Data	Returns the first event (action + data) in the AlliGator Q Elements input array in AlliGator Q Event and the remaining events in the AlliGator Q Elements output array. If there is a GUI:Abort element in the array, or if the abort flag is raised, returns a single GUI:Abort as AlliGator Q Event and an empty array as AlliGator Q Elements output array.			
AlliGator GUI Actions	AlliGator Q Elements in AlliGator IV DVR AlliGator Q Event in AlliGator Q Event in Comparison of Com	Processes AlliGator GUI-related actions.			
AlliGator Image Actions	Script in VI in AlliGator Q Event in Data error in (no error) AlliGator Ctrl Refnums	Processes AlliGator source image-related actions.			
AlliGator Initialize Images	AlliGator IV DVR Phasor Plot Display error in (no error) error out	Initializes AlliGator image structures.			
AlliGator Initialize Internal Variables	State Indicators Alligator version error in (no error) Message variables error out	Initializes AlliGator internal variables.			
AlliGator Intensity Actions	Script in VI in AlliGator Q Elements in AlliGator IV DVR in AlliGator Q Event in Data error in (no error) AlliGator Ctrl Refnums	Processes AlliGator intensity time trace- related actions.			
AlliGator No Action Event	No Action	Returns a no-op event.			
AlliGator Package Notebook Messages	AlliGator Q Event in Message Message Formatting Message Formatting	Formats Notebook message by adding AlliGator Action header and style.			
AlliGator Phasor Graph Actions	Script in VI in AlliGator Q Elements in AlliGator Q Elements out Data Value Reference in Data Value Reference out AlliGator Q Elements in Data Value Reference out AlliGator Q Elements in Data Value Reference out AlliGator C Event in Data error in (no error) AlliGator Ctrl Refnums	Processes AlliGator phasor graph-related actions.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Phasor Plot Actions	Script in VI in Script out AlliGator Q Elements in Manual	Processes AlliGator phasor plot-related actions.			
AlliGator Phasor Ratio Actions	Script in Script out AlliGator Q Elements in AlliGator Q Elements out data value reference in Data Value Reference out AlliGator Q Event in Data error in (no error) AlliGator Ctrl Refnums	Processes AlliGator phasor ratio-related actions.			
AlliGator Queue Non Empty Events	AlliGator Q Actions Pror Out Error In	Removes consecutive duplicates of any kind of AlliGator action to leave a single copy of each in the array of enqueued AlliGator events. The same action can appear several time, as long as the different copies are separated by a different action.			
AlliGator Queue	create if not found? (F) AlliGator Q Error In Error Out	Returns the AlliGator Action queue.			

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy $\mid \blacksquare$ \rightarrow Shared reentrancy

Inlining: → Inlined

2.2.2. Library Constant VIs

NOTE No Constant VIs Found

2.3. AlliGator Dataset Information Window.lvlib

Responsibility: VIs handling Dataset Information displayed to the user.

Version: 1.0.0.0

2.3.1. Functions

Table 3. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Build Dataset Information String	Alliquitar Pataret Information String Dataset Information String String	Creates Dataset Information String based on internal variables and settings.			

Name	Connector pane	Description	S.	R.	I.
Alligator Dataset Information Window	Datarot Infe	Window displaying the dataset information extracted from internal variables and settings.			

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy \mid \blacksquare \rightarrow Shared reentrancy

Inlining: → Inlined

2.3.2. Library Constant VIs

NOTE No Constant VIs Found

2.4. AlliGator Debug.lvlib

Responsibility: features under test and accessible via the DEBUG menu item (when exposed).

Version: 1.0.0.0

2.4.1. Functions

Table 4. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AliGator Debug Variables Storage	Variant in Variant out Variable Found/Replaced? Error In Error Out Set/Get (F)	Variant attribute storage of debug-related variables.			
AlliGator Debug Window	Alligator	VI that can be run and peek at some of the internal data of Alligator (but not the AlliGator Internal Variable structure).			
AlliGator Feature Tests	Script Vin Data Value Reference out Debug Action List Data Value Reference out Debug Action List Data List List List List List List List List	VI implementing the successive debugged features as individual cases.			
		One feature can be tested per session, and is hardwire-selected.			

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy \mid \blacksquare \rightarrow Shared reentrancy

Inlining: → Inlined

2.4.2. Library Constant VIs

NOTE No Constant VIs Found

2.5. AlliGator Decay Analysis.lvlib

Responsibility: VIs handling decay analysis (preprocessing, processing, Ifit, RF).

Version: 1.0.0.0

Table 5. Nested libraries

Name	Туре
AlliGator Decay Fit.lvlib	Library
AlliGator Decay Preprocessing.lvlib	Library
AlliGator Decay Processing.lvlib	Library
AlliGator IRF.lvlib	Library

2.5.1. Functions

This library has no functions set to non private scope.

2.5.2. Library Constant VIs

NOTE No Constant VIs Found

2.6. AlliGator Decay Fit.lvlib

Responsibility: VIs used to fit decays to 1-Exp or 2-Exp models.

Version: 1.0.0.0

2.6.1. Functions

Table 6. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator 1- Exp + IRF Fit v2	Pit Options Fit Options Fit Options Frit	Legacy code for 1-Exp decay fit.		S	
AlliGator 2- Exp + IRF Convolution Fit v2	Pecay Fitted Decay Residuals Fit Options Peti Options error in (no error) parameter bounds Guess Parameters Guess Parameters Options	Legacy code for 2-Exp decay fit.		5	

Name	Connector pane	Description	s.	R.	I.
AlliGator All ROIs Decay Fit Non- Interactive (Fast + Individual IRF) v2	AlliGator Internal Variable error in (no error) AlliGator Internal Variable Message error out	Performs multi-ROIs NLSF decay fits for the selected ROIs. Each ROI has its own associated IRF.			
AlliGator All ROIs Decay Fit Script	Decay Graph All ROIs Decay Fit Script Base Roy Decay Fit Script Message Error In Error Out	Series of actions triggered by the All ROIs NLSF Analysis:Interactive (Slow) Analysis menu item.			
AlliGator All ROIs Decay Fit	AlliGator Internal Variable Lifetime Graph Message error in (no error) Error out	Fits all ROI decays with the selected model, using a common IRF for all ROIs.			
AlliGator Best of All (weights) String	Weighted Fit Weighted Fit	String to append to the fit output sent to the Notebook in the case of a "Best of All" option, to specify which fit was the best (weighted or unweighted).		5	
AlliGator Check Decay Reference	Time-Series Folder Reference Decay Plot Name AlliGator Internal Variable Error In Error In Time-Series Folder Reference Decay Plot Name AlliGator Internal Variable Valid Reference? For Or Out Message AlliGator Data Series Type	Obtains the relevant IRF (either common or local) for the subsequent task.			
AlliGator Check IRF	Current Decay (dup) Reference Decay (or Dirac) SYNC Period Error In	Check whether the provided IRF is a valid plot. If not, builds a mock Dirac IRF as a replacement.		S	
AlliGator Clear Local IRFs	AlliGator IV DVR in AlliGator IV DVR out Other Herror in (no error) AlliGator IV DVR out Other Herror Message Herror out	Clears the internal variable-sored local IRFs.			

Name	Connector pane	Description	s.	R.	I.
AlliGator Clip Decay for Fit	Decay in The State of the State	Clips the decay according to the Min and Max Decay Percentile parameters provided. If the decay range is [I_min, I_max] and the decay percentiles are (f_min, f_max) in [0, 1], we look for: - starting from the location of the maximum (presumably the peak location) and moving forward, the point at which: I_i < I_min + f_max*(I_max - I_min) = F_max - starting from the last point and moving baclwards, the point at which: I_i > I_min + f_min*(I_max - I_min) = F_min		5	
AlliGator Convert Decay Fit Parameter Constraints v2	Fit Parameter Constraints Fit Model Error in Fit Model Error out Fit Model F	Returns constraints for all parameters of the model, even if the user only specified a few (or none at all). This VI assumes that the Fit Parameter Constraints involve tau, and returns values with the same assumption. Look for constrained parameters. If present, replace default constraints (-Inf, Inf) by new ones, except for the offset, which is set to the guessed value (or zero if not provided).		5	
AlliGator Convert New to Legacy Fit Parameter Constraints	All Parameter Constraints All Parameter Constraints Parameter Bounds	version conversion for Fit Parameter Constraints .		5	
AlliGator Create Fit Parameter Plots Script	XYGraph in Current ROI Name Current ROI Name	Creates as many empty parameter plots as there are parameters.			

Name	Connector pane	Description	s.	R.	I.
AlliGator Decay Fit Output String	Guess Parameters Options All Fit Parameters Plot clipped? (Clipped) Plot Range Plot Name Fit Output Pit Output Message Delta Best Fit Parameters Fit Options Error In Guess Parameter Fit Output Message Fit Officer Fit Parameter Countriaints CPU (s)	Creates decay fit output string.		5	
AlliGator Enforce Lifetime Positivity	Constraints in Exercise Fairless Constraints out Engres Pairless P	Constrains lifetime parameters to be positive (replacing them by zero otherwise).			
AlliGator Fit Decay	Decay Fit Options & Parameters Selected Plot Info - Flag Current Decay Name Current Decay Name Current Decay Name Reference Decay Reveal	VI implementing single decay fit with either a single or double exponential model with IRF convolution (or in the absence of IRF, without convolution).		S	
AlliGator Fit IRF String	Use Local IRF IRF String IRF String Error Out	Create the Notebook string specifying what kind of IRF was used in the fit.		S	
AlliGator Fit IRF to Cubic Spline + Sine	Selected Plot Info Gathe Strice Fitted Plot Fitted IRF Message Firror Out	Fits the provided plot by a sum of a sinus function and a cubic spline.			
AlliGator Fit Termination Criteria & Quality Metrics Output String	[AlliGator Decay Analysis.lvlib:AlliGator Decay Fit.lvlib:AlliGator Fit Termination Criteria & Quality Metrics Output String.vi]	Creates a string describing the fit termination criteria and quality metrics.		S	

Name	Connector pane	Description	S.	R.	I.
AlliGator Get	Decay Guess Parameters IRF Guess Parameters Names Param. Guess Parameters Names	Determines Guess Parameters for a 1-Exp			
1-Exp Guess		fit according to the user-specified choices:			
Parameters		* Last valid fitted parameters:			
		If the number of available last valid fitted			
		parameters is correct, uses those,			
		otherwise use the estimated parameters.			
		* User-provided parameters:			
		If a parameter is provided by the user, uses			
		it, otherwise uses the estimated parameter.			
		* User-provided (normalized) parameters:			
		If a normalized-parameter (amplitude or			
		baseline) is provided by the user, uses it,			
		otherwise uses the estimated parameter.			
		* Numerically estimated parameters:			
		Use the numerically estimated parameters.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get 2-Exp Guess Parameters	Guess Parameters RF Guess Parameters Names Guess Parameters Type	Determines Guess Parameters for a 2-Exp fit according to the user-specified choices: * Last valid fitted parameters:		S	
		If the number of available last valid fitted parameters is correct, uses those, otherwise use the estimated parameters.			
		* User-provided parameters:			
		If a parameter is provided by the user, uses it, otherwise uses the estimated parameter.			
		* User-provided (normalized) parameters:			
		If a normalized-parameter (amplitude or baseline) is provided by the user, uses it, otherwise uses the estimated parameter.			
		* Numerically estimated parameters:			
		Use the numerically estimated parameters.			
AlliGator Get Fit Options & Parameters	[AlliGator Decay Analysis.lvlib:AlliGator Decay Fit.lvlib:AlliGator Get Fit Options & Parameters.vi]	Gets Decay Fit Options & Parameters.		5	
AlliGator Get Fit Output Options	All Parameters? Decay Fit Output Options Error In Laser Period Error Out	Gets Fit Output Options.			
AlliGator Get Guess Offset	Fit Model Guess Offset Guess Offset Guess Offset Last Fit Parameters?	Used to get an offset parameter when no constraint is provided:			
		- if "Use last valid fitted parameters", use it.			
		- otherwise, if a guess offset parameter is available, use it, else use zero.			
AlliGator Get IRF Values & Locations	[AlliGator Decay Analysis.lvlib:AlliGator Decay Fit.lvlib:AlliGator Get IRF Values & Locations.vi]	Gets the array of stored IRF Values as well as the IRF Locations .			
AlliGator Get Last Fitted Parameters	Guess Parameters Names Guess Parameters Names (dup) Last Fitted Parameters Last Fitted Parameters OK	Returns Last Fitted Parameters as well as Last Decay Max - Min .			

Name	Connector pane	Description	s.	R.	I.
AlliGator Get Min Decay Peak Value	Decay Statistics Graph Min Decay Peak Value	Gets the abscissa (X value) of the first cursor in the Decay Statistics Graph .			
AlliGator Get n-Exp Guess Parameters	Model Guess Parameters Decay Guess Parameters Options IRF Person. Error Out Error In	Get numerically estimated Guess Parameters for 1-Exp or 2-Exp models.		5	
AlliGator Get Tabulated Results Header (Decay Fit)	Tabulated Results Header Fabrile Ferror In From Out	Creates the header line for the ASCII ouput of decay fit parameters.			
AlliGator Is Decay Valid	Decay Decay (dup) Plot Name Decay Message Error In Error Out	Checks whether the input Decay is valid, i.e. is non-zero, does not contain NaN and has more than one element.		S	
AlliGator Is IRF Valid	Reference Decay Valid Plot?	Checks that the Reference Decay is a valid plot.			
AlliGator n- Exp + IRF Fit v4	VI Refnum Decay IRI Fit Options HI Options HI Options Guess Parameters (For Guess Parameters (For Guess Parameters Options Guess Parameters Options	Fits the provided decay to 1-Exp or 2-Exp model. This VI assumes that All Parameter Constraints involve tau (rather than the square root of lifetime) and returns values with the same assumption.		M	
AlliGator Number of Convolution Points	Period # Convolution Points Period parvalve Provide P	Computes the "optimal" number of convolution points N as T/dt + 1, where T is the Period and dt the step size in the input t Array . Note that since T might not be an exact mutliple of dt, the resulting step dt' = T/N might not be identical to dt.		5	
AlliGator Update Decay Fit Results (Stats)	Fit Results Fit Properties Fit Prop	Stores basic statistics (algorithm, Chi2/N, R2 and RMSE, where N is the number of evaluation points) for a successful fit. This is used when the "Use All" fit method option is selected, and allows picking the best result out of the 3 methods (LS, LAR, Bisquare)			

Reentrancy:

→ Preallocated reentrancy |

→ Shared reentrancy

2.6.2. Library Constant VIs

NOTE No Constant VIs Found

2.7. AlliGator Decay Preprocessing.lvlib

Responsibility: Handles decay pre-processing functions.

Version: 1.0.0.0

2.7.1. Functions

Table 7. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Create Head & Tail Bounding Cursors	[AlliGator Decay Analysis.lvlib:AlliGator Decay Preprocessing.lvlib:AlliGato r Create Head & Tail Bounding Cursors.vi]	Creates a Head (HE) and a Tail (TS) cursor in the Decay Graph to be used for the definition of the decay end (the "Head" part) and start (the "Tail" part) when performing decay extrapolation.			
AlliGator Extrapolate Decay	Selected Plot Info Replace Plot (T)? error in (no error) Selected Plot Info Extrapolated Decay Message Error Out	Extrapolates a truncated decay by trying to fit an exponential to the tail part and connect it to the head part .			
AlliGator Find & Plot Threshold Crossing Position	[AlliGator Decay Analysis.lvlib:AlliGator Decay Preprocessing.lvlib:AlliGato r Find & Plot Threshold Crossing Position.vi]	Find the location where the decay reaches the provided thresholf (from below), returns that position and adds it to the last plot in the Lifetime & Other Parameters Graph .			
AlliGator Find & Plot Zero-Crossing Position v2	[AlliGator Decay Analysis.lvlib:AlliGator Decay Preprocessing.lvlib:AlliGato r Find & Plot Zero-Crossing Position v2.vi]	decay in the Decay Graph using the provided Shift and adds it to the last plot in the Lifetime & Other Parameters			
AlliGator Find Cross- Correlation Shift	polynomial order (3) Half Width (Points) Decay Graph Lifetime Graph Time Stamp Error In Reference Decay normalization (none)	Computes the shift of the last plot in the Decay Graph maximizing the cross-correlation of that plot and the Reference Decay and adds this value to the last plot in the Lifetime & Other Parameters Graph .			

Name	Connector pane	Description	s.	R.	I.
AlliGator Get Background Subtraction Parameters	Background Subtraction Para Error in Background Subtraction Para Error Out Get (F)/Set	Obtains or stores information about Background Subtraction Parameters from Settings.			
AlliGator Get- Set Decay Preprocessin g Options & Parameters	[AlliGator Decay Analysis.lvlib:AlliGator Decay Preprocessing.lvlib:AlliGato r Get-Set Decay Preprocessing Options & Parameters.vi]	Get/Set Decay Pre-processing Options & Parameters (Settings).			
AlliGator Get- Set Decay Preprocessin g Parameters	Decay Preprocessing Paramet Error In Error Out Get (F)/Set	Get/Set Decay Pre-processing parameters.			
AlliGator Preprocess Decay v3	Decay (in) P Fixels Time-Gated Reference Decay Error In Decay Preprocessing Parameters	Applies the different selected pre- processing steps on the provided decay in the specified order.		S	
AlliGator Store Cursor- defined Head & Tail Fractions	Analysis.lvlib:AlliGator Decay Preprocessing.lvlib:AlliGato	Sets the head and tail fractions for decay extrapolation based on the corresponding cursor locations. If one cursor is missing, the current fraction is preserved.			
AlliGator Subtract Background from Decay Curve v3	ROI Intensity Array in Parameter Par	Subtracts background from a decay based on selected options.		5	
AlliGator Update Background Subtraction Indicators	AlliGator Ref Decay Metadata Error In	Updates background subtraction indicators in the Decay Graph panel.			

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy \mid \blacksquare \rightarrow Shared reentrancy

Inlining: \rightarrow Inlined

2.7.2. Library Constant VIs

NOTE No Constant VIs Found

2.8. AlliGator Decay Processing.lvlib

Responsibility: All functions related to decay processing (but not decay PRE-processing).

Version: 1.0.0.0

2.8.1. Functions

Table 8. Functions (non private scope only)

Name	Connector pane	Description	s.	R.	I.
AlliGator All ROIs Average Lifetimes	AlliGator Internal Variable Lifetime Graph Winternal Variable Lifetime Graph Winternal Variable Wessage error in (no error)	Computes an approximate average lifetime for all ROI decays, based on the integral under the curve and IRF information.			
AlliGator Compute Decay Average	Average Lifetime Outputs t_0_IRF error in (no error) Average Lifetime Options	Computes an estimate of the average lifetime of a decay using the formula <tau> = <tau> _F_T - <tau> _IRF_T where F_T is the decay and IRF_T is the IRF.</tau></tau></tau>			
Lifetime		This calculation involves estimating the location of the rising time for both IRF and decay.			
		When the option "Use Local IRF" is selected and a Decay Location is provided, the corresponding local IRF (if it exists) is used.			
AlliGator Compute ROI Decay	Pixel Threshold High Pixel Threshold Low Images ROI Descriptor Decay Peak Constraints error in (no error) Loop ID Pixel Threshold High Pixel Threshold Low Pixel Threshold Lo	Extracts the ROI pixel intensities for the different gate images, rejecting pixels not satisfying the intensity-based or peakintensity based criteria.		5	
		A different (faster) approach is used for single-pixel ROIs.			
AlliGator Computer IRF t_0 and Mean Lifetime	Reference Decay error in error out	Computes an estimate of the average lifetime of the IRF and the location of the rising time.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Decay Graph Get-Set Process Plot Target	Menu Gerican Plot(s) to Process From In Get (F)/Set Menu Plot(s) to Process From In Get (F)/Set	Get: Check which plot(s) to process, and add/remove checkmarks accordingly. In this case, the Menu reference is mandatory. Set: based on user selection, set which plot(s) to process. In this case, the Plot(s) to Processinput is mandatory (Single Plot,			
AlliGator Extrapolate Multiple Plots	Selected Plot Info Selected Plots Extrapolated Decay Extrapolated Decay Message error in (no error) Single Plot?	Selected Plots, All Plots), but not the Menu . Extrapolated the selected plots.			
AlliGator Get Decay Average Lifetime	Selected Plot Info <tau> IRF t_0_IRF error in (no error) Average Lifetime Error Out Message</tau>	Computes estimated average lifetime for the selected plot.			
AlliGator Get Decay Peak Constraints	Decay Peak Constraints Over Peak Peak Entering Error Out	Get Decay Peak Constraints.			
AlliGator Get Decay Time Axis v2	Number of Gates t Array	Get decay time axis.			
AlliGator Get Pixel Count Constraints	Pixel Count Constraints Final	Get intensity constraints.			
AlliGator Get Process Plots Indices	Selected Plot Info Gas Selected Plot Info (dup) error in (no error) Selected Plots error out	Get indices of plots to be processed.			
AlliGator Get ROI Decay UI	AlliGator IV DVR AlliGator IV DVR AlliGator Ctrl Refnums ROI Descriptor error in (no error) AlliGator IV DVR AlliGator IV DV	Computes the decay at the provided ROI and adds tje computed intensity (sum of all gates) and estimated background to two separate plots in the Intensity Time Trace Graph.			

Name	Connector pane	Description	s.	R.	I.
AlliGator Get ROI Decay	AlliGator Internal Variable ROI Descriptor Decay error in (no error) Valid Decay? AlliGator Internal Variable ROI Descriptor Decay Headata ROI Descriptor ROI Descri	Extract decay from provided ROI (see exception below) and apply pre-processing steps if applicable. Data and metadata are stored internally for further analysis. Option: instead of providing a ROI (which implies a Source Image dataset), a Decay can be provided, which will not be pre-processed but stored as is, with no additional metadata.			
AlliGator Get ROI Intensity Array v4	ROI Center ROI Descriptor ROI Descriptor ROI Descriptor ROI Descriptor ROI Descriptor ROI Center RO	Gets the intensity array for the provided ROI.			
AlliGator Get Selected Plots and Reference Decay	Selected Plot Info Reference Decay Finth Finth Valid Reference Decay? error in (no error) Reference Decay	Get selected plot indices and reference decay.			
AlliGator Get Tabulated Results Header (Average Lifetimes)	Tabulated Results Header From In From Out	Builds string to output results of average lifetime calculation.			
AlliGator New Decay Plot Name	Current Folder ""Dscay" New Decay Name	Builds name for new decay plot.			
AlliGator Only Show Last Decay	Show Last Decay Only?	Returns option of showing only the last plot.			

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy $\mid \blacksquare$ \rightarrow Shared reentrancy

Inlining: → Inlined

2.8.2. Library Constant VIs

NOTE No Constant VIs Found

2.9. AlliGator IRF.lvlib

 $\textbf{Responsibility:} \ \textbf{Handles IRF-related functions.}$

Version: 1.0.0.0

2.9.1. Functions

Table 9. Functions (non private scope only)

Name	Connector pane	Description	s.	R.	I.
AlliGator All ROIs IRF Analysis	AlliGator Internal Variable AlliGator Internal Variable AlliGator Internal Variable Message Hessage Fig. 1 = IRS defined First out	Extracts the decays from all ROIs and stores them as IRFs for subsequent NLSF analysis.			
AlliGator Compute Optimal IRF v2	Optimization Graph Residuals Plot IRF*PSED Fixed Parameters IRF Optimization Control Error In Optimization Graph Residuals Plot Fitted Plot Plot Name Plot Name Fit Parameter Values Optimal Tau Error Out Fit Results String Additional Data	Extract IRF from provided decay using deconvolution and finding the minimal metrics.			
AlliGator Create Cursors for Square Gated IRF Fit	Decay Graph Cursor Cursor Fur Sign Error In Error Out	Creates 5 cursors (tr1, tr2, tf1, tf2 and ten) used to define the different transitions between domains in a square gate.			
AlliGator Extract IRF Instead of Decay	Extract IRF instead of Decay?	Get the value of the option "Get IRF instead of Decay".			
AlliGator Fit to Logistic Square Gated IRF	Selected Plot Info Fitted IRF Fitted IRF Message Fror Out	Fits the decay to a logistic square gate.			
AlliGator Fit to Model IRF	Selected Plot Info error in (no error) Fitted IRF Message Error Out	Fit the selected plot to a Gaussian convolved with a single-exponential decay.			
AlliGator Fit to Tilted Logistic Square Gated IRF	Selected Plot Info Fitted IRF Fit Message Error Out	Fits the selected decay to a tilted logistic square gate.			
AlliGator Get Optimal IRF from Decay v2	Selected Plot Info error in (no error) Extracted IRF Output Message Hessage Error Out	Extract IRF from single-exponential decay by deconvolution and optimization of the time constant.			
AlliGator Get Reference Decay	Data Value Reference out Brown Data Value Reference out	Gets the internally stored reference decay.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get Square Gated IRF Analysis Cursors	Cursor Positions Array Gain Error In Cursor Names Array Cursors available? Error Out	Gets locations and names of the 5 cursors needed to define the regions of a square gate fit.			
AlliGator Script All ROIs IRF Analysis	All ROIs Analysis Script All ROIs Analysis Script Message Error Out	Interactive script computing the decay for all ROIs and storing them as IRFs for subsequent NLSF analysis.			
AlliGator Sort Cursors for Square Gated IRF Fit	Cursor Position Array in Sorted Cursor Position Array Cursor Name Array in Sorted Cursor Name Array Sorted Cursor Name Array	Sorts 5 cursors by name (if they exist) corresponding to the 5 boundaries between regions in a square gate.			
AlliGator Square Gated IRF Fit Cursors String	Cursor Names Array Cursor Positions Array Error In	Creates string describing the boundaries between regions in a square gate.			
AlliGator Thresholded IRF	Selected Plot Info Thresholded IRF Message Error Out	Sets IRF values below threshold to 0.			

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy $\mid \blacksquare$ \rightarrow Shared reentrancy

Inlining: → Inlined

2.9.2. Library Constant VIs

NOTE No Constant VIs Found

2.10. AlliGator Decay Fit Parameter Map.lvlib

Responsibility: VIs related to the Decay Fit Parameter Map

Version: 1.0.0.0

2.10.1. Functions

Table 10. Functions (non private scope only)

Name	Connector pane	Description	s.	R.	I.
AlliGator Build Decay Fit Parameter Map	AlliGator Internal Variable. Decay Fit Map Ctrl Refums Decay Fit Parameter Map Upd. Compute Decay Fit Parameter Valid Parameter?	Builds the selected fit parameter map image.			
AlliGator Color Decay Fit Parameter Map in Original Image	Decay Fit Parameter Map Col Image Color Scale Refnum AlliGator IV DVR out Source Image Refnum Error In Error Out	Overlays the Decay Fit Parameter Map on the Source Image.			
AlliGator Convert Decay Range Options	Percentile Conversion Decay Fit Options & Paramet Decay Fit Options & Paramet	Converts percentiles unit.			
AlliGator Decay Fit Parameter Map Context Menu Handler	Image Event Data DEFENSE Error In Error Out	Decay Fit Parameter Map contextual menu handler.			
AlliGator Decay Parameter Range Mouse Move Event	AlliGator Actions in AlliGator Actions out Decay Fit Parameter Error In	Handles mouse move event in the Decay Fit Parameter Map display range control.			
AlliGator Decay Parameters Map Mouse Up Event	AlliGator Actions in AlliGator Actions out Image Control Refnum Government of the Property of	Handles Mouse Up event in the Decay Fit Parameter Map image.			
AlliGator Export ROI(s) NLSF Parameters as ASCII File	AlliGator IV DVR in AlliGator IV DVR out All ROIs error in (no error) AlliGator IV DVR out Message error out	Exports Decay Fit Parameter Map data to an ASCII file.			
AlliGator Get Decay Fit Parameter Map Data Wrapper	Data Value Reference in Valid Parameter Data Value Reference out Compute Decay Fit Parameter Fit Parameter Map Data error in (no error) New Map Selected?	Returns selected fit parameter's map.			

Name	Connector pane	Description	s.	R.	I.
AlliGator Get Decay Fit Parameter Map Data	Compute Decay Fit Parameter Multiple Decays Fit Parameters X Resolution Y Resolution Firor In Map Index Map Data (V x H) New Map Selected? Firor Out	Fills in matrix with fit parameter wherever it has been computed, NaN otherwise.			
AlliGator Get Local Fit Results String	[Decay Fit Parameter Name] X Y Parameters Decay Sum	Builds Decay Fit Parmeters string.			
AlliGator Get Single ROI Message Start	Single-Pixel Fit? Single Pixel Fit? Single Pixel Fit? Single Pixel Fit? ROI idx error in (no error) Horrisa	Builds single-ROI Decay Fit Parameters header string.			
AlliGator Load IRFs & Fit Data (Map) HDF5 File v0.3	[AlliGator Decay Fit Parameter Map.lvlib:AlliGator Load IRFs & Fit Data (Map) HDF5 File v0.3.vi]	Loads Decay Fit Parameter Map and associated metadata.			
AlliGator Load IRFs & Fit Data Map v1	[AlliGator Decay Fit Parameter Map.lvlib:AlliGator Load IRFs & Fit Data Map v1.vi]	Old version of Load Decay Fit Parameter Map.			
AlliGator New NLSF Parameter Map Resolution	Old NLSF Parameters Map X R New NLSF Parameters Map X R New NLSF Parameters Map X R New NLSF Parameters Map X R	Map resolution conversion. If Is Full Image Parameter Map is true, returns the input resolution parameters. If not, returns -1.			
AlliGator NLSF Parameters to Coordinates	[[Multiple Decays Fit Param Decay Locations	Extracts ROI coordinates from the Decay Fit Parameters array for all ROIs in the map.		5	> 00
AlliGator Plot Fit Parameter vs Intensity v2	Lifetime Graph refnum Data Value Reference in ROI idx (2147.483647.all ROIs) error in (no error) Fit Parameter	Creates scatter plot of selected parameter vs intensity for all ROIs and sends it to the Lifetime & Other Parameters Graph .			
AlliGator Post-Fit Parameter Map Update	Decay Fit Parameter Partin Error In Useful Error Out	Updates Decay Fit PArameter Map image and Profile Plot window.			

Name	Connector pane	Description	s.	R.	I.
AlliGator Read IRFs & Fit Data HDF5 File Metadata	[AlliGator Decay Fit Parameter Map.lvlib:AlliGator Read IRFs & Fit Data HDF5 File Metadata.vi]	Reads Decay Fit Parameter Map metadata from HDF5 file.			
AlliGator Save All Decay Fit Parameter Maps to ASCII	Data Value Reference in Data Value Reference out error in (no error) error out	Saves the Decay Fir Parameter Map 2D array to an ASCII file.			
AlliGator Save Decay Fit Parameter Map to ASCII	Data Value Reference in Dialog? error in (no error) Fit Parameter	Saves single Decay Fit Parameter Map data into an ASCII file.			
AlliGator Save IRFs & Fit Data (Map) HDF5 File v0.4	[AlliGator Decay Fit Parameter Map.lvlib:AlliGator Save IRFs & Fit Data (Map) HDF5 File v0.4.vi]	Saves Decay Fit Parameter Map and associated metadata to an HDF5 file.			
AlliGator Save-Load IRFs & Fit Data (Map)	[AlliGator Decay Fit Parameter Map.lvlib:AlliGator Save- Load IRFs & Fit Data (Map).vi]	Load/Save Decay Fit Parameter Map & Metadata from/to HDF5 file.			
AlliGator Send Decay Fit Parameter Map to Lifetime Graph	Lifetime Graph refnum Data Value Reference in ROI idx (2147483647: all ROIs) error in (no error) fit Parameter Data Value Reference out error out error out	Send the selected Decay Fit Parameter Map data to a single plot in Lifetime & Other Parameters Graph .			
AlliGator Update Decay Fit Parameter Map Palette	Decay Fit Map Ctrl Refums Image Display Palette Infor error in (no error) error out	Updates the color palette of the Decay Fit Parameter Map image.			

Reentrancy: □ → Preallocated reentrancy | □ → Shared reentrancy

Inlining: → Inlined

2.10.2. Library Constant VIs

NOTE No Constant VIs Found

2.11. AlliGator Decay Statistics.lvlib

Responsibility: Handles the Decay Statistics Graph.

Version: 1.0.0.0

2.11.1. Functions

Table 11. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Compute Decay Statistics v2	Decay Statistics Bin Decay Statistics Graph Ref Image Array Current Data Error In Decays Max Values Decays Min Values Decays Min Values Time (s)	Computes decay min & max histograms.			
AlliGator Recompute Decay Statistics Histograms	Decay Statistics Graph Decays Max Values Decays Min Values Decay Statistics Bin Error In	Rebins decay Min & Max histograms.			

Scope: σ \rightarrow Protected | σ \rightarrow Community

Reentrancy:

→ Preallocated reentrancy |

→ Shared reentrancy

Inlining: → Inlined

2.11.2. Library Constant VIs

NOTE No Constant VIs Found

2.12. AlliGator Dual-Channel Datasets.lvlib

Responsibility: VIs handling dual-channel datasets

Version: 1.0.0.0

2.12.1. Functions

Table 12. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Channel Arithmetic Computation	AlliGator IV DVR in AlliGator IV DVR out Channel Arithmetic Action P Error In Error Out	If selected, computes the arithmetic combination of ING & G2 channel and stores it nito the Dataset 1 structure. If no arithmetic operation is selected, the G2 channel is in Dataset 1 structure, INT in Dataset 2 structure.			
AlliGator Compute (1- G2_INT)xMea n(INT) Images	G2 Images Sum(G2) Sum((1-G2/INT)* <int> Images Max(G2) Max(G2) Min((1-G2/INT)*<int> Min((1-G2/INT)*<int>) Error In Sum(INT) INT Images</int></int></int>	Computes (1 - G2/INT)* <int>.</int>			
AlliGator Compute G1 tilde Images	Sum(G2) Max(G2) Max(Result) G2 Images Error In Sum(INT) INT Images	Computes G_1^tilde = (<int>+INT)/2 - G2.</int>			
AlliGator Compute G2 tilde Images	Max(G2)	Computes G2 + (<int>-INT)/2.</int>			
AlliGator Compute G2_INTxMea n(INT) Images	G2 Images Sum(G2) Max(G2) Max(G2) Min(G2) Min(G2) Min(G2) Min(G2/INT* <int>) Min(G2/INT*<int>) Min(G2/I</int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int></int>	Computes G2/INT * <int>.</int>			
AlliGator Compute INT - G2 Images	G2 Images	Computes INT - G2.			
AlliGator Get Channel Names & Indices	[AlliGator Dual-Channel Datasets.lvlib:AlliGator Get Channel Names & Indices.vi]	Returns information on the dataset file's channel(s).			
AlliGator Get Selected, INT & G2 Channel Names	Datasets.lvlib:AlliGator Get	Formats dual-gate channel name and returns selected channel.			
AlliGator Get- Set Channel Selection	Available Channel Names Selected Channel Name Channel Arithmetic error in (no error) Set (T)/Get (F)	Groups access to 3 different types of Dataset Information: - available channel names - channel name - channel arithmetic			

Name	Connector pane	Description	S.	R.	I.
AlliGator Is Selected	Selected Channel Name Selected Channel Prirst channel?	Identifies what type of channel is selected (First channel = TRUE: G2 or First			
Channel First		channel = FALSE: INT).			
Channel		In the case of a single-channel dataset, the output is TRUE.			
AlliGator Select FLI Channel Type	Dataset Channel Names Available Channel Names Complementary Channel Name Selected Channel Name Selected Channel Name G2 Channel Name (or single error out INT Channel Name (or empty) Selected Channel Message	Used when loading a new dataset. If the selected channel name is compatible, use it, if not either open a dialog (dual-channel dataset) or use the default (single-channel dataset).			

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy $\mid \blacksquare$ \rightarrow Shared reentrancy

Inlining: \rightarrow Inlined

2.12.2. Library Constant VIs

NOTE No Constant VIs Found

2.13. AlliGator Fit Method Benchmark.lvlib

Responsibility: VIs for the Fit Method Benchmark Tool.

Version: 1.0.0.0

2.13.1. Functions

Table 13. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator 2- Exp Decay Model	Period Fit Simulation Parameters Output Plot Description Output Plot Output Plot Output Plo	Computes a 2-#xp decay with the provided parameters.			
AlliGator Baseline Simulation Check	New Baseline in # Bins Ohack Ohack	Computes an optimized baseline.			
AlliGator Compute Lifetime Simulation Histograms	Histogram Bin Size (f1) Histogram Bin Size (tau) tau 1 Array Statistics (tau 1) Array Statistics (au 2) Array Statistics (al) Error In Array Statistics (al) Percentiles to Keep (1, 99) Percentiles to Keep (1, 99)	Computes fitted parameter histograms and statistics.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Decay Sum	Output Plots # Photons	Computes the number of simulated photons in each decay (the other two plots are the fit and the residuals).			
AlliGator Fit Linear Combination s of Exponentials	Output Plots Output Plot Names Plot Colors Fit Simulation Parameters Decay Simulation Parameters Decay Fit Options & Parameters Reference Decay Error In Show Decays, Fits & Residuals Output Plots Out	Simulate a 1-Exp or 2-Exp decay and fits it with the selected model.			
AlliGator Fit Method Benchmark	Alligatus Fit Mothad Bonchmk	Fit Method Benchmark GUI.			
AlliGator Get tau1, tau2 & a1	[AlliGator Fit Method Benchmark.lvlib:AlliGator Get tau1]	Outputs tau1, tau2 and a1.			
AlliGator Load Experimental IRF	XYGraph in Plot Data out Plot Data in Experimental IRF Loaded? Experimental IRF Loaded? Herror in Message	Load experimental IRF from ASCII file.			
AlliGator Pad or Truncate Decay	# Requested Points Frror In	Adds or removes decay points for it to match the laser period.			
AlliGator Pseudo Dirac IRF	Reference Decay out Period Decay Bin Size Error In	Computes a decay with a single non-zero bin.			
AlliGator Rescale 2-Exp Fraction	a 1 in r 1 out 2-Exp Parameters r 1 out	Normalizes decay amplitudes for random timestamp generation.		S	
AlliGator Save Simulation Outputs to ASCII	Fit Results Simulating	Saves simulation results.			
AlliGator Too Many Histogram Bins Message	error in (no error)	Too many bins error dialog.			

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy \mid \blacksquare \rightarrow Shared reentrancy

Inlining: → Inlined

2.13.2. Library Constant VIs

NOTE

No Constant VIs Found

2.14. AlliGator Globals, Variables & Constants.lvlib

Responsibility: Globals, refnums, constants, etc.

Version: 1.0.0.0

2.14.1. Functions

Table 14. Functions (non private scope only)

Name	Connector pane	Description	s.	R.	I.
AlliGator Clear Variables	[AlliGator Globals]	Reset all internal variables to their default.			
AlliGator Decay Graph Max Legend Size	[AlliGator Globals]	Returns the Decay Graph Max Legend Size internal variable.			
AlliGator Decay Statistics Graph Max Legend Size	[AlliGator Globals]	Returns the Decay Statistics Graph Max Legend Size internal variable.			
AlliGator Exported Internal Variable Names	[AlliGator Globals]	Array of internal variable names exposed to Python plugin users. These names are internally preceded by "X_" in the enum item list.			
AlliGator Graph Max Legend Size	[AlliGator Globals]	Returns the stored max legend size of the graph whose refnum is provided.			
AlliGator Intensity Time Trace Max Legend Size	[AlliGator Globals]	Returns the Intensity Time Trace Graph Max Legend Size internal variable.			
AlliGator Lifetime Graph Max Legend Size	[AlliGator Globals]	Returns the Lifetime Graph Max Legend Size internal variable.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Phasor Graph Max Legend Size	[AlliGator Globals]	Returns the Phasor Graph Max Legend Size internal variable.			
AlliGator Phasor Ratio Graph Max Legend Size	[AlliGator Globals]	Returns the Phasor Ratio Graph Max Legend Size internal variable.			
AlliGator Refnums Storage	[AlliGator Globals]	LV2-type global storing refnums to VIs, Tabs and Indicators.			
Alligator Variables Storage	[AlliGator Globals]	LV2-type global storage of internal AlliGator data and parameters.			
AlliGator Visible Tab Label	[AlliGator Globals]	Returns the label of visible tab on AlliGator's main window.			

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy \mid \blacksquare \rightarrow Shared reentrancy

Inlining: → Inlined

2.14.2. Library Constant VIs

NOTE No Constant VIs Found

2.15. AlliGator HDF5.lvlib

Responsibility: VIs handling HDF5 dataset files.

Version: 1.0.0.0

2.15.1. Functions

Table 15. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Check Gate Number in HDF5 File v2	Gate Names ref in Gate FLI Parameters error in (no error) Missing Gates? Additional Gates?	Checks that the gate images stored in the HDF5 file correspond to the description provided by the FLI Parameters .			
		If so updates # Gates in that structure and sets the corresponding output flags.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Check Gate Number in HDF5 File v3	Gate Names ref in FLI Parameters error in (no error) Missing Gates? Additional Gates?	Checks that the gate images stored in the HDF5 file correspond to the description provided by the FLI Parameters . If so updates # Gates in that structure and			
AlliGator Check HDF5 File Type	HDF5 File Path in HDF5 File Path out HDF5 File Path out HDF5 File Path out HDF5 File Path out FLI Dataset Type FLI Dataset? error out	sets the corresponding output flags. Tries reading the HDF5 file's information for the 3 different supported dataset type, until success, and returns the identified dataset type.			
AlliGator Check HDF5 Image Size v2	FLI Parameters out Image ROI Information FLI Parameters out Image Binning Options	Determines the gate image dimension (X, Y) from the provided file information.			
AlliGator Check HDF5 Image Size	FLI Parameters out Image ROI Information	Determines the gate image dimension (X, Y) from the provided file information.			
AlliGator Convert FLI Dataset Info to String	File Path FLI Parameters Metadata size error in (no error) File Path Data Description Error Out	Builds HDF5 Dataset Information string			
AlliGator Get DAQ & Metadata	[AlliGator HDF5.lvlib:AlliGator Get DAQ & Metadata.vi]	Gets DAQ Parameters and Metadata string from internal data storage.			
AlliGator Get Pile-up Correction Parameter	Data Information Pile-up Correction (already Pile-up Correction out Pixel Well Capacity in error in (no error)	Reads from the metadata whether or not pile-up correction was already applied, and if so, does not repeat it.			
AlliGator Is SS2 Dataset HDF5 File	File Path SS2? Is SS2 Dataset? Error In	Checks wether a HDF5 file is a SS2 dataset file (early version).			
AlliGator Load HDF5 FLI Dataset Information	File Path Error In The path FLI Data File Information Metadata Data Description error out elapsed (relative) seconds	Loads HDF5 FLI dataset information.			
AlliGator Load HDF5 FLI Dataset Prelude	File Path out error in (no error) Fight File Path out FIL Data File Information Metadata error out Data Description	Initial steps of loading a HDF5 FLI dataset file.			
AlliGator Load HDF5 FLI Dataset	AlliGator IV DVR in HDF5 Dataset path (empty) Control References Error In Result String	Loads a HDF5 FLI dataset file.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Load HDF5 FLI Header File Information v0.3	HDFS FLI File Loading Infor error in (no error) ref out HDFS FLI File Loading Infor File Information String error out	Loads HDF5 FLI dataset file information (v0.3).			
AlliGator Load HDF5 FLI Header File Information v0.4	HDF5 FLI File Loading Infor error in (no error) File Information String error out	Loads HDF5 FLI dataset file information (v0.4).			
AlliGator Load HDF5 FLI Header File Information v0.6	HDFS FLI File Loading Infor error in (no error) File Information String error out	Loads HDF5 FLI dataset file information (v0.6).			
AlliGator Load Single Gate Image from HDF5 v 0.6b	Gate Index File Info error in (no error) Action Data 1 Data 2 error out	Loads single gate image (or dual-channel images) from HDF5 FLI dataset file (v0.6b).			
AlliGator Load Single HDF5 Gate Image v 0.2b	Gate Index File Info error in (no error) Action Gate Index Post 1 Post 2 Post 2 Post 2 Post 2 Post 3 Post 4 Post 4 Post 4 Post 4 Post 5 Post 7 Post 7	Loads single gate image from HDF5 FLI dataset file (v0.2).			
AlliGator Load Single HDF5 Gate Image v 0.3b	Gate Index File Info error in (no error) Action Gate Index Data 1 Data 2 error out	Loads single gate image (or dual-channel images) from HDF5 FLI dataset file (v0.3b).			
AlliGator Read HDF5 FLI Dataset Series Timestamps	File Paths ************************************	Loads HDF5 FLI dataset gate images timestamps			
AlliGator Read HDF5 FLI Image Information	error in (no error) Image ROI Information Image Binning Options Image Information Image Information	Reads HDF5 FLI dataset image information.			

Name	Connector pane	Description	s.	R.	I.
AlliGator Read HDF5 SSX Detector nformation	ref in SwissSPAD Detector Information error in (no error) error out	Reads HDF5 FLI dataset SSx detector information.			
AlliGator Select FLI Dataset Channel Name	Input Message Channel Names Error In Channel Arithmetic Cancelled? Error Out	Dialog window to select which SS3 channel to display.			
AlliGator Single SS3 Gate Slip Correction	Refnum in SSS Refnum out Last Strip Saturated?	Removes one of two sets of columns of a SS3 dataset to account for common FPGA data transfer issues.			
AlliGator SS3 Gates Slip Correction	Data Value Reference in Data Value Reference out Message error in (no error) Message error out	Performs the column truncation for SS3 datasets needed to fix a common FPGA data transfer issue.			

Scope: σ \rightarrow Protected | σ \rightarrow Community

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy $\mid \blacksquare$ \rightarrow Shared reentrancy

Inlining: → Inlined

2.15.2. Library Constant VIs

NOTE No Constant VIs Found

2.16. AlliGator Intensity Corrections.lvlib

Responsibility: VIs handling intensity correction to the Sum of All Gates image.

Version: 1.0.0.0

2.16.1. Functions

Table 16. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Define & Save Intensity Corrections File	[AlliGator Intensity Corrections.lvlib:AlliGator Define & Save Intensity Corrections File.vi]	UI to enter intensity correction sepcifications.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get Dataset Series Timestamp & Intensity Correction	Corrections.lvlib:AlliGator Get Dataset Series	Get dataset timestamp and intensity corrections (if available and requested) or use defaults instead.			
AlliGator Load Intensity Corrections	Intensity Correction File Intensity Corrections Error In Message Error Out	Loads saved dataset series intensity corrections.			
AlliGator MCP Voltage to Gain	MCP Voltage MCP Parameters Alliester MCP V Gain	Heuristic fit of the relationship between effective ICCD gain G and MCP voltage V_MCP.			
		The function used is a stretched exponential with vertical and horizontal offsets.			
		Parameters need to be fitted independetly with a G(V_MCP) series.			

Reentrancy:

Preallocated reentrancy |

Shared reentrancy

Inlining: \rightarrow Inlined

2.16.2. Library Constant VIs

NOTE No Constant VIs Found

2.17. AlliGator Internal Variables.lvlib

Responsibility: VIs to access individual (or group of) internal data or variables using a data by value reference (DVR).

Version: 1.0.0.0

2.17.1. Functions

Table 17. Functions (non private scope only)

Name	Connector pane	Description	s.	R.	I.
AlliGator IV [Raw Phasor Plot]	AlliGator IV DVR in [Raw Phasor Plots] Raw Phasor Plots] error in (no error) Fluts Get (F)/ Set (T) .V1]	No description found (add content in vi description)			
AlliGator IV Average Lifetime Map	AlliGator IV DVR in [[Average Lifetime]] error in (no error) Get (F)/ Set (T) AlliGator IV DVR out [[Average Lifetime]] Single Data Point Path error out Amplitude Weighted Average	No description found (add content in vi description)			
AlliGator IV Calibration Phasor Map	AlliGator IV DVR in Phasor Calibration Map 2 error in (no error) Get (F)/ Set (T)	No description found (add content in vi description)			
AlliGator IV Calibration Phasor Series	AlliGator IV DVR in Calibration Phasor Series error in (no error) Get (F)/ Set (T) AlliGator IV DVR out Calibration Phasor Series error out	No description found (add content in vi description)			
AlliGator IV Calibration Phasor	AlliGator IV DVR in Calibration Phasor error in (no error) Get (F)/ Set (T) AlliGator IV DVR out Calibration Phasor error out	No description found (add content in vi description)			
AlliGator IV Clear Phasor Data	Data Value Reference in Claw Phone Data Value Reference out	No description found (add content in vi description)			
AlliGator IV Current Dataset	AlliGator IV DVR in Current Dataset error in (no error) Get (F)/ Set (T) AlliGator IV DVR out Current Dataset error out	No description found (add content in vi description)			
AlliGator IV Current Folder	AlliGator IV DVR in Current Folder error in (no error) Get (F)/ Set (T) AlliGator IV DVR out Current Folder error out	No description found (add content in vi description)			
AlliGator IV Dataset Path	AlliGator IV DVR in Single Data Point Path [Time-Series Path] error in (no error) Get (F)/ Set (T) AlliGator IV DVR out Single Data Point Path [Time-Series Path] error in (no error) Current Dataset	No description found (add content in vi description)			
AlliGator IV Dataset Series Folder & Type	[AlliGator Internal Variables.lvlib:AlliGator IV Dataset Series Folder & Type.vi]	No description found (add content in vi description)			
AlliGator IV Decay Shift Plot	AlliGator IV DVR in Decay Shift Plot in Plocay Shift Plot out Perror in (no error) Get (F)/ Set (T) AlliGator IV DVR out Decay Shift Plot out error out	No description found (add content in vi description)			
AlliGator IV Decays Max & Min	[AlliGator Internal Variables.lvlib:AlliGator IV Decays Max & Min.vi]	No description found (add content in vi description)			
AlliGator IV Gate Image Slide	AlliGator IV DVR in Gate Image Slide error in (no error) Get (F)/ Set (T) AlliGator IV DVR out Indicator IV DVR out Stile error out error out	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
AlliGator IV Intensity Corrections	AlliGator IV DVR in AlliGator IV DVR out [Intensity Correction] [Intensity Correction] error in (no error) error out	No description found (add content in vi description)			
AlliGator IV Last Calibrated Phasor SDV	AlliGator IV DVR in AlliGator IV DVR out Last Calibrated Phasor SDV error in (no error) Get (F)/ Set (T)	No description found (add content in vi description)			
AlliGator IV Last Calibrated Phasor	AlliGator IV DVR in AlliGator IV DVR out Last Calibrated Phasor Last Calibrated Phasor error in (no error) Get (F)/ Set (T)	No description found (add content in vi description)			
AlliGator IV Mask Image	AlliGator IV DVR in Mask Image Mask Image error in (no error) Get (F)/ Set (T)	No description found (add content in vi description)			
AlliGator IV Phasor Map	AlliGator IV DVR out [[CSG Phasor]] error in (no error) Get (F)/ Set (T)	No description found (add content in vi description)			
AlliGator IV Phasor Plot	AlliGator IV DVR in Phasor Plot Phasor Plot error in (no error) Get (F)/ Set (T)	No description found (add content in vi description)			
AlliGator IV Phasor Plots Locked to Reference n	AlliGator IV DVR in AlliGator IV DVR out [Phasor Plot(s) locked to R Reference error in (no error) Get (F)/ Set (T)	No description found (add content in vi description)			
AlliGator IV Phasor Ratio Map	AlliGator IV DVR in [Phasor Ratio]] error in (no error) Get (F)/ Set (T) AlliGator IV DVR out [Phasor Ratio]] error out error out	No description found (add content in vi description)			
AlliGator IV Reference Decay	AlliGator IV DVR out Reference Decay Reference Decay Plot Name Error In Get (F)/ Set (T)	No description found (add content in vi description)			
AlliGator IV ROI Decay	AlliGator IV DVR in Decay in Non Pocay out Por Valid Decay? Get (F)/ Set (T)	No description found (add content in vi description)			
AlliGator IV ROI Mask	AlliGator IV DVR in ROI Mask Image ROI Mask Image error in (no error) Get (F)/ Set (T)	No description found (add content in vi description)			
AlliGator IV Selected Gate Images	AlliGator IV DVR in Plant AlliGator IV DVR out Plant Selected Gate Images Error In Error Out	No description found (add content in vi description)			
AlliGator IV Selected Max or Sum Image	AlliGator IV DVR in AlliGator IV DVR out Sum (T)/ Max (F) Error In Sum (T)/ Max (F) Error Out AlliGator IV DVR out Current Folder Selected Gate Image (Sum/Max)	No description found (add content in vi description)			
AlliGator IV Single Fit Parameters	AlliGator IV DVR out [Single Decay Fit Parameter] error in (no error) Get (F)/ Set (T) AlliGator IV DVR out [Single Decay Fit Parameter] error out error out	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
AlliGator IV Start Time	AlliGator IV DVR in Start Time Start Time Fror in (no error) Get (F)/ Set (T)	No description found (add content in vi description)			
AlliGator IV Template	AlliGator IV DVR in Variant Variant Variant error in (no error) Get (F)/ Set (T)	No description found (add content in vi description)			
AlliGator IV Time Series Timestamps & Current Dataset		No description found (add content in vi description)			
AlliGator IV Type of Displayed Image	AlliGator IV DVR in Displayed Image error in (no error) Get (F)/ Set (T) AlliGator IV DVR out Displayed Image error out	No description found (add content in vi description)			
AlliGator IV Valid Decay	AlliGator IV DVR in Valid Decay Valid Decay Valid Decay error in (no error) Get (F)/ Set (T)	No description found (add content in vi description)			
AlliGator IV White Light Image	AlliGator IV DVR in White Light Image error in (no error) Get (F)/ Set (T) AlliGator IV DVR out White Light Image error out	No description found (add content in vi description)			
AlliGator Update IV Calibration Phasor	AlliGator IV DVR in Use Last Raw Phasor Phasor error in (no error) AlliGator IV DVR out Use Last Raw Phasor Phasor error out	No description found (add content in vi description)			

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy $\mid \blacksquare$ \rightarrow Shared reentrancy

Inlining: → Inlined

2.17.2. Library Constant VIs

NOTE No Constant VIs Found

2.18. AlliGator Lifetime.lvlib

Responsibility: VIs handling lifetime plots (Lifetime & Other Parameters Graph).

Version: 1.0.0.0

2.18.1. Functions

Table 18. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Add Average Lifetime to Plot	New Plot Name Plot ID (-1) Lifetime Graph refnum Abscissa Average Lifetime Average Lifetime error in (no error) Average Lifetime error out	Adds a single lifetime data point to a plot.			
AlliGator Add Decay Shift to Plot	Decay Shift —	Adds timestamp and decay shift to internal variables when computing a new decay.			

Reentrancy: \square \rightarrow Preallocated reentrancy $|\square$ \rightarrow Shared reentrancy

Inlining: → Inlined

2.18.2. Library Constant VIs

NOTE No Constant VIs Found

2.19. AlliGator Local Decay Window.lvlib

Responsibility: VIs used with the Local Decay Window.

Version: 1.0.0.0

2.19.1. Functions

Table 19. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Decay Window	Decay	Local Decay Window UI. This window displays the decay (and when available, IRF, fit and residuals) at the selected ROI.			
AlliGator Get Local Fit & Residuals	[AlliGator Local Decay Window.lvlib:AlliGator Get Local Fit & Residuals.vi]	Gets the fit and residuals for the selected ROI.			
AlliGator Send Local Decay Plots	AlliGator IV DVR in ROI Descriptor error in (no error)	Gets the data (decay, fit, IRF, residuals and fit parameters) at the selected ROI and sends it to the Local Decay Window for update.			
AlliGator Update Local Decay Graph	YY Graph Refnum Profile Window Data Error In Error Out	Updates the Local Decay Window graph.			

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy $\mid \blacksquare$ \rightarrow Shared reentrancy

Inlining: → Inlined

2.19.2. Library Constant VIs

NOTE No Constant VIs Found

2.20. AlliGator Python Plugins.lvlib

Responsibility: VIs handling python plugins.

Version: 1.0.0.0

2.20.1. Functions

Table 20. Functions (non private scope only)

Name	Connector pane	Description	s.	R.	I.
AlliGator Add Python Functions to Menu	Menu in Menu out Object Context Menu? Parent Menu Tag error in (no error)	Adds python function found in script to corresponding menu in AlliGator.			
AlliGator Add Python Functions to Object Menu	Object Refnum Object Refnum dup Menu in Menu out error in (no error)	Adds python function to object menu.			
AlliGator Export Plugin Parameters to Clipboard	AlliGator IV DVR Parameter Names only Error In	Sends a string containing all parameters, internal variables and data accessible to python plugins.			
AlliGator Find Object Python Function Information	Object Refnum Menu Item Tag error in (no error) Python Function Info Menu Item Tag (dup) Found? error out	Gets object's python function's information			
AlliGator Find Python Function Information	Function Menu Item Tag Python Function Info error in (no error) Found?	Gets python function's information.			
AlliGator Format Path String for Python	Python Plugin Dialog Output Fror In Fror Out	Formats path for python function consumption.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get Message & Parameters from JSON Output		Interprets JSON string output and formats it to be sent to the Notebook.			
AlliGator Get Python Function Parameter Values Dialog	Parameters Out Parameters In Error In Error Out	Dialog to allow user to enter python function parameters.			
AlliGator Get Python Session ID	Python Plugins Folder Path Error In Python Session Valid Python Session Error Out Message	Gets the current (or creates a new) python session ID.			
AlliGator JSON Output Warning	JSON Element Name Function Name error in (no error)	Formats error message with python function information.			
AlliGator JSON String to Settings Parameter	AlliGator Settings List Ele Variant SSONS error in (no error) error out	Decodes JSON python ouput string.			
AlliGator Parameter Type to Default Value String	Parameter Type Default Parameter String	Returns default value of input parameter type.			
AlliGator Plugin Target to Submenu	Function Target Menu Tag Function Target Type Lubitand	Convert Plugin Target to Menu Tag for insertion of the menu item.			
to Submenu		For plugins associated with objects such as Source Image or Decay Graph, the insertion takes place at the bottom of contextual menu and thus an empty string is provided.			
		For plugins associated with data not exposed to the user (such as the Gate Series), the plugin menui is added to the main menu, and thus the tag of the submenu in which it will be inserted needs to be provided.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Python Plugin Function Doc String	String in String out Doc String Error In String	Extracts doc string from python function.			
AlliGator Python Plugin is Function a Plugin	String out Plusin String out Is AlliGator Python Plugin? Error Out	Checks for the presence of the # IsAlliGatorPythonPlugin # tag in the python function.			
AlliGator Python Plugin Plot Data Type	error in (no error) Type of Plot Data error out	Looks at the python function name to figure out whether it acts on "All Plots" or "Selected Plots".			
AlliGator Python Plugin Valid Input Datatype	Input Datatype Valid Datatype?	Checks whether the input datatype is valid.			
AlliGator Python Plugin Valid Output Datatype	Output Datatype Valid Datatype?	Checks whether the output datatype is valid.			
AlliGator Python Plugin Valid Output Destination	Output Destination Valid Destination?	Checks whether the output destination is valid.			
AlliGator Send Python Function Doc String to Notebook	Target Message Error In Error Out	Sends python function doc string to Notebook.			
AlliGator Get Plots from JSON Output	Function Display Name error in (no error)	Extract plots from JSON output.			
AlliGator Run XY Graph Python Function	data value reference in Data Value Reference out Mouse Click Event Data Message Python Function Info error in (no error) AlliGator Ctrl Refnums	Calls a XY Graph-associated python function.			

Name	Connector pane	Description	S.	R.	I.
AlliGator XY Graph Python Function Handler Core	data value reference in XY Graph Event Message error in (no error) error out	Calls XY Graph-associated python function.			
AlliGator Add Missing Parameter Map Parameters	Parameter Names [Decay Fit Parameter Name] out Parameter_Flattened_Map in Parameter_Flattened_Map out Error In First Parameter_Flattened_Map out Error Out	Complements python function output parameter map by adding "NaN" instead of the missing parameters. The map needs to be complete to be displayable in AlliGator, even though the python function might only ouput a few parameters.			
AlliGator FLI Dataset Python Function Handler Core	Item Tag Alligator Atomic Action Data Value Reference in Alligator Atomic Action Data Value Reference out Current Data Message error in (no error)	Calls FLI Dataset python function.			
AlliGator Parameter Names to Parameters List	Parameter Names [Decay Fit Parameter Name]	Converts parameter names to an array of enums.			
AlliGator Pythin Plugin Get FLI Dataset	Data Value Reference in AlliGator Parameter Names N Current Data Value Reference out AlliGator Parameter Names N Esse Pt_Dataset_Data error in (no error) error out	Gets FLI Dataset and related information to pass to a python plugin.			
AlliGator Python Plugin Get FLI Dataset Data	AlliGator DIV DVR in Error In AlliGator DIV DVR out Reference Decay SGI Gate Images Error Out Image Mask (U16)	Gets FLI Dataset Images and Reference Decay for python plugin call.			
AlliGator Run FLI Dataset Python Function	Data Value Reference in Python Function Info Function Info Function Output Destination Current Data Punction (no error) By Data Value Reference out Function Output Destination Current Output Destination Message error in (no error)	Runs FLI Dataset python plugin function.			

Name	Connector pane	Description	s.	R.	I.
AlliGator Pythin Plugin Get Reference Decay	Data Value Reference in Data Value Reference out AlliGator Parameter Names in Bulling State Parameter Names out error in (no error) Reference Decay error out Found?	If AlliGator Parameter Names in contains 'Reference Decay', returns the Reference Decay cluster and removes 'Reference Decay' from AlliGator Parameter Names out. Sets the Found? flag to TRUE.			
		Otherwise, do nothing and returns the default cluster and set the Found? flag to FALSE			
AlliGator Add Plugins to Main Menu	Menu in Bethan Menu out Flying Ikenu error out	Adds python functions to the corresponding AlliGator submenus. If a submenu is empty, deactivates it.			
AlliGator Check Invalid Python Plugin Input Parameter Types	Invalid Parameter Types Source error in (no error) error out	Formats error with invalid input parameter message.			
AlliGator Check Invalid Python Plugin Output Destination	Valid Destination? error in (no error)	Outputs warning message with invalid destination.			
AlliGator Check Invalid Python Plugin Output Value Type	Valid Output Value Type? error in (no error) error out	Outputs warning with invalid output value type			
AlliGator Check Missing Python Plugin Doc String	Source error in (no error) error out	Outputs warning with missing doc string message.			

Name	Connector pane	Description	s.	R.	I.
AlliGator Check Missing Python Plugin Function Name	Function Name Found Source error in (no error) error in (no error)	Outputs warning with missing function name.			
AlliGator Check Missing Python Plugin Input Section	Input Section Found Source error in (no error) error out	Outputs warning with missing input section.			
AlliGator Check Missing Python Plugin Output Section	Output Section Found error in (no error) error out	Outputs warning with missing output section.			
AlliGator Check Valid Python Plugin Target	Source error in (no error)	Outputs warning with missing python plugin target.			
AlliGator Clear Unknown Python Error	error in (no error) error out	Clears unknown python function error (i.e. code != 1672).			
AlliGator Close Python Session	Error In Error Out	Closes python session with message.			
AlliGator Decode Python Plugin Output Section	Input String Source Function Outputs error in (no error)	Looks for Python Plugin Header and Footer and returns: - String before Header - Output Type - Output Destination			
		String before Header : isf the section is not found (no header or no footer), the input string is passed unchanged.			
		If the section is found, the part that preceded that section is returned,			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get Python Plugin Function Parameters String	Function Display Name Parameter Names Not Found Function Parameters JSON St error in (no error)	Gets requested parameter names from the python function description, opens up a dialog window to allow the user to enter the required parameters, and builds a JSON string to pass those parameters (names and values) to the python function.			
AlliGator Get Python Plugin Functions List	Python Plugins Folder Path Include Example Plugins Error In	Extracts list of python plugin functions from the Python Plugin folder.			
AlliGator Get Python Script Function List	File Path Array of Python Functions Info Parent Menu Locations error in (no error) Parent Menu Locations error out	Extracts list of python plugin functions and their information from python script.			
AlliGator Get Python Functions List in Scripts	All Files in Dir Array of Python Functions error in (no error) Parent Menus error out	Gets python functions list in scripts array.			
AlliGator Parse Python Function Input Parameters	Source Error In Error Out	Looks for Python Plugin Input Paramater Section Header and Footer and returns the parameter names, types and descriptions If the section is found, the part that follows that section is returned.			
AlliGator Python Plugin Function Offsets	String in String in (dup) Function Offsets Error In	Finds function definition section Offsets . Returns the script part preceding the first function as Script Header .			
AlliGator Python Plugin Get Function Name	String in String out Source Is preceded by Separator Error In Error Out	Returns function name and whether the function should be preceded by a separator in the menu.			
AlliGator Python Plugin Target Information	Script Header Function Target Windows error in (no error) Function Target Types Parent Menu Locations error out	Extracts information on the python plugin target(s).			
AlliGator Reset Python Session	error in (no error) Python Session Include Example Plugins Valid Python Session error out Message	Resets python session.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Unzip Python Plugins	Application Directory Python Plugins Folder Error In Error Out	Unzips python plugin archive provided with AlliGator installation.			
AlliGator Image Python Function Handler Core	Image Event Alligator Atomic Action Data Value Reference in Alligator Atomic Action Data Value Reference out error in (no error) error out	Runs image-related python plugin function.			
AlliGator Run Source Image Python Function	Data Value Reference in Python Function Info Source Image error in (no error) Python Function Output Type Message error out	Runs image-related python function.			

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy $\mid \blacksquare$ \rightarrow Shared reentrancy

Inlining: → Inlined

2.20.2. Library Constant VIs

NOTE No Constant VIs Found

2.21. AlliGator ROIs.lvlib

Responsibility: VIs handling ROI actions.

Version: 1.0.0.0

2.21.1. Functions

Table 21. Functions (non private scope only)

Name	Connector pane	Description	s.	R.	I.
AlliGator Create Complement ary ROI	Image Label Image ROI Error In	Computes complementary ROI and adds it to the ROI list.			
AlliGator Create Individual Pixel ROIs from ROI	Y Resolution X Resolution ROI Selected ROI (-1: use ROI D Abort ROI Creation Error In	Converts a closed ROI into a series of single-pixel ROIs.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Find ROI Name	ROI Descriptor Image Control ROI Description Error In Found? Error Out	Looks for the stored ROI having thes same definition as the input ROI and returns its name if found.			
AlliGator Get Current ROI Name	Current ROI Name	Returns the current ROI name.			
AlliGator Get ROI Components	Stored ROIs Names No. N	separates stored ROIs information into arrays of: - ROI Descriptors - ROI Names - Overlay Colors			
AlliGator Get ROI Names	Stored ROIs in ROIName ROI Name	Returns list of ROI names.			
AlliGator Load ROI v3	Source Image Refnum Dialog (T) Destination Image (Source I Error In Phasor Plot Image Time (s)	When invoked from a context menu, used Dialog for file selection: the Dialog flag should be set to True (default) and the Destination Image string is ignored. When invoked from a drag & drop event, the Dialog flag should be set to False and the Destination Image (Source Image or Phasor Plot Image) should be provided.			
AlliGator Preview ROI File	File Path #ROIs Loaded Destination Image Roy Phasor Plot Image Error In Fire Proof Out	Returns information on ROIs stored in the file.			
AlliGator ROI Analysis Script	Image ROI Bold Badyris Error Out	Actions needed to extract the decay corresponding to the current ROI or input ROI and compute its phasor.			
AlliGator Save ROI(s)	Current Dataset Name Image Label All ROIs? ROI Descriptor Error In	Saves one or more ROIs.			
AlliGator Save Multiple ROIs v3	ROI Description Destination Folder (Default Default File Name Error In	Save multiple ROIs.			
AlliGator Save ROI v3	ROI Description Error In ROI Description Error Out	Saves single ROI.			
AlliGator Set New ROI Name	Stored ROIs in ROI Name in ROI Name out Default Name ("")	Sets new ROI name (verifies that the input name is not already used).			
AlliGator Update ROI After Mouse Release	Profile Tool? (F) ROI Descriptor Not Zoom or Pan? (T) Ellipse? (F) Error In Phasor Image? (F)	Builds list of actions handling ROI update following a mouse release event.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get Phasor Plot ROI Event Refnum	Phasor Plot ROI Event Refnum	Returns the Phasor Plot Image ROI Event refnum.			
AlliGator Get Phasor Plot ROIs, Names & Current ROI	-	Returns all ROIs and their names as well as the index of the current ROI.			
AlliGator Phasor Plot Image Edit ROI Name	ROI Name in ROI Name out	Changes current Phasor Plot image ROI name.			
AlliGator Phasor Plot Image ROI Storage [MULT] v3	[AlliGator ROIs.lvlib:AlliGator Phasor Plot Image ROI Storage [MULT] v3.vi]	Handles multiple Phasor Plot image ROIs storage.			
AlliGator Phasor Plot Image ROI Storage [SGL] v3	Plot Image ROI Storage	Handles single Phasor Plot image ROI storage.			
AlliGator Phasor Plot ROI Manager	Alliques Pharer Plat ROI Manager	Phasor Plot image ROI list display UI.			
AlliGator Quit Phasor Plot Image ROI Manager	Error In Pharer Error Out	Handles Phasor Plot image ROI Manager quit event.			
AlliGator Select Phasor Plot ROI	ROI Selection Data Error In Error Out	Handles Phasor Plot image ROI selection.			
AlliGator Compute & Plot All ROIs Characteristi	[AlliGator ROIs.lvlib:AlliGator Compute & Plot All ROIs Characteristics.vi]	Computes all Source Image ROI characteristics and sends them as plots to the Lifetime & Other Parameters Graph.			
AlliGator Create Source Image Contour ROI	ROI Mask Image ROI Error In Image Label	Create new Source Image ROI consisting of the contour of the input ROI.			

Name	Connector pane	Description	s.	R.	I.
AlliGator Create Source Image ROI Grid	ROI Grid Message Error In Grid Error Out	Creates a series of Source Image ROIs layed out on a grid.			
AlliGator Add Multiple Source Image ROIs	ROI Mask Image Path ROIs Error In	Adds multiple Source Image ROIs to ROI storage.			
AlliGator Get All Image ROIs	All Image ROL	Returns all Source Image ROI names.			
AlliGator Get Source Image ROI Event Refnum	Source Image ROI Event Refnum	Returns the Source Image ROI Event refnum.			
AlliGator Get Source Image ROIs, Names & Current ROI	[AlliGator ROIs.lvlib:AlliGator Get Source Image ROIs]	Returns list of store Source Image ROIs, their names and the index of the current ROI.			
AlliGator is Full-Frame ROI	ROI Descriptor in Follows ROI Descriptor (dup) Follows	Checks whether the Source Image ROI is a full-frame ROI.		S	>
AlliGator Mask Image to ROIs	Data Value Reference out Mask Image Name (Default: n Message error in error out	Define ROIs as sets of Mask Image pixels with identical integer values. If the Mask Image Name parameter is left unconnected (or is an empty string), the file name of the loaded Mask Image is used as a prefix to all ROI names.			
AlliGator Quit Source Image ROI Manager	Error In Error Out	Handles Source Image ROI manager quit event.			
AlliGator Reject Source Image ROIs based on Characteristi	Source Image Refnum ROI Mask Refnum ROI Characteristics String error in (no error) ROI Characteristics String	Computes ROI characteristics and compare them to the conditions defined by the user in a dialog box. Keeps only the ROIs that meet those			
CS		conditions.			

Name	Connector pane	Description	S.	R.	I.
AlliGator ROIs to Mask Image	Data Value Reference in Data Value Reference out All ROIs? error in Error out	Uses existing ROIs to build a mask image summarizing their information. Define ROIs as sets of Mask Image pixels			
		with identical integer values.			
AlliGator Select Source Image ROI	ROI Selection Data Error In # ROIs ROI Descriptor ROI Name Overlay Color Error Out Current ROI	Selects Source Image ROI(s).			
AlliGator Set Source Image ROI ID	New ROI ID Error In ROI 10 ROI 10 Error Out	Change the selected Source Image ROI ID.			
AlliGator Source Image Edit ROI Name	ROI Name in ROI Name out old ROI Name ROI Name in accepted?	Changes current Source Image ROI name.			
AlliGator Source Image ROI Manager	Alligator Source Im. ROI Manager	Source Image ROI list display UI.			
AlliGator Source Image ROI Storage [MULT] v3	[AlliGator ROIs.lvlib:AlliGator Source Image ROI Storage [MULT] v3.vi]	Handles multiple Source Image ROIs storage.			
AlliGator Source Image ROI Storage [SGL] v3	[AlliGator ROIs.lvlib:AlliGator Source Image ROI Storage [SGL] v3.vi]	Handles single Source Image ROI storage.			

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy $\mid \blacksquare$ \rightarrow Shared reentrancy

Inlining: → Inlined

2.21.2. Library Constant VIs

NOTE No Constant VIs Found

2.22. AlliGator Scripts.lvlib

Responsibility: AlliGator actions performing a series of sequential tasks.

Version: 1.0.0.0

2.22.1. Functions

Table 22. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Calibrated Phasor Map Series Dialog	error in (no error) Calibration Map/Gate Step List Destination Folder File Name (# Steps will be Save Phasor Map error out OK	Dialog window to enter the information eeded to run the Calibrated Phasor Map Series script.			
AlliGator Calibrated Phasor Maps Series Script	Phasor Graph refnum Alligator Queue Elements in Calibration MayGrae Step List of Destination Folder File Name (# Steps will be Save Phasor Plot Error In	Loops through a series of FLI Dataset files, loads them with the specified gate step, and performs an All ROIs Phasor Analysis, using the resulting phasor plot as Phasor Calibration Map. This map is then save and optionally, the phasor plot as well.			
AlliGator Clear Internal Variables before Script	AlliGator Internal Variable [Time-Series Path] Error In Error Out	Clears internal data structure before a script.			
AlliGator Get Series Analysis Type	Menu Tag Series Analysis Type Series Analysis Type Analysis Series Analysis Type	Decodes menu tag to determine whether an action is limited to the Current ROI or All ROIs .			
AlliGator Get Series Dataset Type	AlliGator Dataset Series Type Error In Error Out	Converts Dataset Series type to FLI Dataset type enum.			
AlliGator Get Series Subfolders Information	Path pattern Sorted Subfolder Paths error in (no error) ### Files in the Root Folder dup directory path Sorted Subfolder Paths error out ## Files Same # Files?	Returns a breadown of the folder's content for subsequent script actions.			
AlliGator Get- Set Data Information	Data Information out error in (no error) Get (F)/Set (T) Data Information out error out	Gets/Sets Dataset Information stored in the Settings Storage.vi			
AlliGator Get- Set Loading & Pre- Processing Options	Scripts.lvlib:AlliGator Get- Set Loading & Pre- Processing Options.vi]	Gets/Sets Data Information , Source Image Settings and Decay Preprocessing from/in the Settings Storage.vi.			
AlliGator Get- Set Source Image Settings	Source Image Settings in Source Image Settings out error in (no error) error out error out	Gets/Sets Source Image options.			

Name	Connector pane	Description	s.	R.	I.
AlliGator IV Script Destination File Path	Destination File Path	Gets the Script Destination File Path internal variable.			
AlliGator Load ROIs, Select one ROI (& Convert to Pixel ROIs) Script	[AlliGator Scripts.lvlib:AlliGator Load ROIs]	Script loading the selected ROI from a multi-ROIs file, This requires a number of subsequent steps that are queued by this script.			
AlliGator Load, Merge & to Pixel ROIs Script	[AlliGator Scripts.lvlib:AlliGator Load]	Loads a (multi-) ROI(s) file and merges all the ROIs (including the existing ones), before converting it to a list of single-pixel ROIs.			
AlliGator Logistic Square Gated IRF Characteristi cs Map	AlliGator Internal Variable Cursor Names Array Message error in (no error)	Computes the decays of all ROIs and fits them with a logistic square gate model. Saves the results in an ASCII file.			
AlliGator Logistic Square Gated IRF Fit Result File String	ROI Descriptor Fit Output Delta Best Fit Parameters error in (no error) Header String Result String substitution Substit	Builds string containing the output of a logistic square gate fit.		5	
AlliGator NLSF & Phasor Multi- ROI Analysis Dialog	[AlliGator Scripts.lvlib:AlliGator NLSF & Phasor Multi-ROI Analysis Dialog.vi]	Dialog window to set up a multi-ROIs single-pixel NLSF analysis of a FLI dataset.			
AlliGator Phasor Calibration Map Series Dialog	error in (no error) File Name (# Steps will be Destination Folder Gate Step Series Phasor Calibration Dataset OK error out	Dialog to enter the parameters necessary for the calculation of a Series of Phasor Calibration Maps differing by the gate step used when loading the FLI dataset.			
AlliGator Phasor Calibration Maps (# Gates Series) Script	[AlliGator Scripts.lvlib:AlliGator Phasor Calibration Maps (Gates Series) Script.vi]	Series of Phasor Calibration Map differing by the gate step used when loading the FLI dataset script.			

Name	Connector pane	Description	s.	R.	I.
AlliGator Playback Time-Gated Data Series v2	Save Phasor Plot with Overlay Save Image with Overlay Alligator Queue Elements out Series Paths Displayed Image Time Sider Return AlliGator Data Series Type Playback (F)/Loop (1)	Launches the playback of a FLI dataset series.			
AlliGator Save Single Phasor Plot Script	Phasor Graph Refnum Destination Folder path Plot Name Error In	Script used to save the last Phasor Plot in the Phasor Graph with the specified name and folder.			
AlliGator Script Current ROI Time-Gated Data Series NLSF Analysis v1	Alligator Queue Elements in Path James Alligator Queue Elements out Path James Alligator Ctri Refnums Error In Message Error In AlliGator Data Series Type	Script performing NLSF analysis of the current ROI for the series of FLI dataset in the provided folder.			
AlliGator Script Current ROI Time-Gated Data Series Phasor Analysis v2	Alligator Queue Elements out Path Path Path Path Path Path Path Path	Script computing a phasor plot consisting of the current ROI's phasor in the FLI dataset series.			
AlliGator Script Export ROI Fit Parameters as ASCII	XYGraph in # ROIs Loaded Results Folder 160 Message Dataset Name 170 Error in Ut Error in Decay Fit Parameter to Save Bins Array	Script saving the Decay Fit Parameter Map parameters selected by the user to individual ASCII files (one file per parameter per ROI). This script works for a single ROI or all ROIs.			
AlliGator Script Multi- ROI Single- Pixel NLSF Analysis	Dataset Loading & Pre-processin. IRF Loading & Pre-processin. Lifetime Graph Refnum Phasor Graph refnum Alligator Queue Elements in IRF File Detaset File Decay Fit Parameter to Save Firor in Results Folder Bins Array	Scripts performing NLSF analysis of all pixels in all ROIs, using individual IRFs if provided.			
AlliGator Script Multi- ROI Single- Pixel Phasor Analysis	Dataset Loading & Pre-processin. IRF loading & Pre-processin. Lifetime Graph Refnum Phasor Graph refnum Phasor Graph refnum Alligator Queue Elements in IRF File Dataset File Results Tolder Phasor Parameters Scatter Plot	Scripts performing phasor analysis of all pixels in all ROIs, using individual IRFs if provided.			
AlliGator Script Open Mask Image	Image Path Action List out Error In	Script used to open a Mask Image and identify the corresponding ROIs.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Script Open White Light Image	Image Path White Im Error Out	Script used to open a White Light Image.			
AlliGator Script Sequential ROIs Time- Gated Data Series NLSF Analysis	Alligator Queue Elements in Path Path Time-Series Paths AlliGator Ctrl Refnums Error In AlliGator Data Series Type	Script performing NLSF analysis of a different ROI for each dataset in a series. This is used for instance if the ROI list is representing the successive locations of an object being tracked across the dataset series.			
AlliGator Script Sequential ROIs Time- Gated Data Series Phasor Analysis	Alligator Queue Elements in Time-Series Paths AlliGator Ctrl Refrums Error In AlliGator Data Series Type	Script performing phasor analysis of a different ROI for each dataset in a series. This is used for instance if the ROI list is representing the successive locations of an object being tracked across the dataset series.			
AlliGator Scripting Window	Scripting Window	Template for Scripting UI.			
AlliGator Square Gated IRF Characteristi cs Map	AlliGator Internal Variable AlliGator Internal Variable Message error in (no error) error out	Performs a crude square gate analysis of all ROI decays and saves the gate parameters in an ASCII file.			
AlliGator Tilted Square Gated IRF Characteristi cs Map	AlliGator Internal Variable Cusor Postitions Array Cusor Names Array error in (no error) AlliGator Internal Variable Message Cusor Names Array error out	Performs a tilted logistic square gate NLSF analysis of all ROI decays and saves the gate parameters in an ASCII file.			
AlliGator Toggle (Loop) Playback	Playback (F)/Loop (T) Error In Error Out	Toggles from normal playback (stops at the end of the series) to looped playback or vice versa.			

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy \mid \blacksquare \rightarrow Shared reentrancy

Inlining: \rightarrow Inlined

2.22.2. Library Constant VIs

NOTE No Constant VIs Found

2.23. AlliGator Settings.lvlib

Responsibility: VIs handling user-defined parameters.

Version: 1.0.0.0

2.23.1. Functions

Table 23. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Check Fit Options	Fit Options Refnum Use Data Information Period Modified Option error in (no error) MLE Options Visible? Option Option error out	Handles user-initiated parameter changes in the Fit Options panel.			
AlliGator Compute Natural Frequency	Error In Error Out	Computes the "natural" phasor frequency as a functions of various settings parameters.			
AlliGator Export Settings Parameter JSON String to Clipboard	Error In Error Out	Reads the control's value and creates a JSON string describing it and copies it into th clipboard.			
AlliGator Gate Separation (ns)	Gate Separation (ns) error in (no error)	Returns the Gate Separation settings parameter.			
AlliGator Get Available Fitting Parameters	Parameter Names Missing Parameter Names Frite.	Returns list of parameters not in the Parameter Names list.			
AlliGator Get Control Label & Settings Element	Settings.lvlib:AlliGator Get	Returns the label string of the Settings control whose CtlRef refnum is provided, as well as the corresponding AlliGator Settings List enumerated value.			
AlliGator Get Control Notebook String	Control Label Notebook String Value error in (no error) error out	Formats the input Value of the control whose Control Label is provided into a string. A special case is needed when units are			
		involved, otherwise the default case should be able to handle all other cases.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get Phasor Ratio Interpolated Color Scale	Reference 1 Color Reference 2 Color Error In	Builds a Interpolated Color Scale Definition based on the colors associated with both references.			
AlliGator Hot Pixel Removal Options String	Image Display Options String out Heat Heat Place error in (no error) error out	Builds a string defining the hot pixel removal options.			
AlliGator Init Settings v2	Parameters to set to Default error in error out	Resets selected Settings parameters to their default values.			
AlliGator Laser Period	1 Laser Period	Settings Data Information:Laser Period value.			
AlliGator Nanotime Gate Separation	Nanotime Gate Separation	Settings Data Information:Nanotime Gate Separation value.			
AlliGator Number of Gates	⑥—— # Gates	Settings Data Information:# Gates value.			
AlliGator Phasor Frequency	F Phasor Frequency	Settings Data Information:Phasor Frequency value.			
AlliGator Refresh All Settings	VI Refnum in Verbose (T) Error In	Reads all Settings values and refresh the corresponding controls and indicators with those values.			
AlliGator Refresh Single Setting	Verbose (T) VI Ref in Control Label Data Error Out	Refresh the control with Control Label with the provided Data . Optionally sends this label and value to the Notebook.			
AlliGator Remove Duplicated Fit Parameter Constraints	Old Constraints in Constraints in Constraints in Error In Constraints in Constrai	Removes any potential duplicate entries in the array of fit parameter constraints.			
AlliGator Reorder Decay Pre- processing Operations	Ring in Ellisator Rearder Operatio Error In	Dialog window allowing the user to reorder decay pre-processing steps.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Save-Load Parameter Map Color Palette List	Refnum in Refnum out Load(F)/Save Print Refnum out error in (no error)	Loads/Save the list of palettes used for the Decay Fit Parameter Map in the AlliGator Settings ini file.			
AlliGator Save-Load Phasor Plot Color Palette List	Refnum in Refnum out Load(F)/Save Page Page error out error in (no error)	Loads/Save the list of palettes used for the Phasor Plot in the AlliGator Settings ini file.			
AlliGator Save-Load Settings	AlliGator Refnum in File Path Error In Load(F)/Save (T)	Use this file to Save or Load AlliGator's settings to an ini file. If the File Path input is left unconnected, the defaut ini file is used (overriding the current ini file). To save settings in a user-specified location, either provide a valid path, or connect a "Not a Path" constant to the input. A File Dialog window will then open to allow the user to choose a path.			
AlliGator Save-Load Source Image Color Palette List	Refnum in Survey Refnum out Load(F)/Save Price Refnum out Price Refnum out Price Refnum out Refnum out Price	Loads/Save the list of palettes used for the Source Image in the AlliGator Settings ini file.			
AlliGator Save-Load Source Image Overlay Color Palette List	Refnum in Refnum out Load(F)/Save Refnum out error in (no error)	Loads/Save the list of palettes used to overlay a phasor-based map on the Source Image in the AlliGator Settings ini file.			
AlliGator Set Phasor Ratio Display Range	Phasor Ratio Display Range Phasor Ratio Display Range Phasor Ratio Display Ratio	Constrains the sliders of the Phasor Ratio (or other parameter) Range to the displayed slide's min and max values.			
AlliGator Settings Array	AlliGator Settings Array	Returns the complete list of settings parameters (values of the enumerated constant).			
AlliGator Settings Control Label to Element	Control Label AlliGator Settings List Ele Error In	Convert Control label to Settings Parameter List enum.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Settings Element to Control Label	AlliGator Settings List ENDED Label	Returns the last string after the rightmost semicolon in the parameter's name., which corresponds to the control's label.			
AlliGator Settings Event Refnum	AlliGator Settings Event Re Error In Lerror Out	Sends user event to the Settings window.			
AlliGator Settings Names	Settings Name Array Forest Settings Name Array Settings Name Array (lower	Returns the list of settings parameter names stored internally.			
AlliGator Settings Storage	AlliGator Settings List Variant Data in Error In Get(F)/Set Variant Data out Error Out	Get/Set Settings parameter values using variant attributes.			
AlliGator Settings to String v2	Settings to Export (All) error in (no error) error out	Returns a string listing all or only the selected settings.			
AlliGator Settings Window	Sottings	GUI providing access to settings parameters for all aspect of AlliGator's functions.			
AlliGator Special Controls Update	VI Refnum AlliGator Settings List Ele error in (no error) VI Refnum (dup) Streid VI Name Message Error Out	Handles update of some Settings controls & indicators as a result of settings changes.			
AlliGator SYNC Period	SYNC Period	Returns the SYNC Period stored in Settings.			
AlliGator Update Channel File Settings	Available Channel Names Selected Channel Name Channel Arithmetic Error In	Updates the values of the Channel Name and Channel Arithmetic controls, as well as of the hidden Available Channel Names indicator.			
AlliGator Update Settings & Control	[AlliGator Settings.lvlib:AlliGator Update Settings & Control.vi]	Updates the Control whose reference or label is passed. The Settings window is updated as well (or if the Settings Window is the sender, AlliGator is).			
AlliGator Update Settings Available Channel Names	Gate Name Refnum Update U	Updates the Channel Name control in the Settings window.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Update Settings Dataset Channel	AlliGator Queue Selected Channel Initialization? error in (no error)	Updates Source Image according to the Selected Channel .			
AlliGator Update Settings Decay Shift Parameters Visibility	Shift Parameters Refnum Shift Parameters Refnum error in error out	Updates the visibility of controls related to shift pre-processing operations.			
AlliGator Update Settings Fit Options Laser Period	Fit Options Refnum Use Data Information Laser error in (no error) Fit Options Refnum error out	Updates the Fit Options cluster's Laser Period obtained from the Data Information tab ot the Settings if the User Data Information Period option is selected.			
AlliGator Update Settings Fit Options	Fit Options Refnum Use Data Information Laser error in (no error) error out	If the Laser Period parameter of the Fit Options is modified, and it is different from the value associated with the dataset, toggles the Use Data Information Laser Period checkbox off.			
AlliGator Update Settings Guess Parameter Arrays	Modified Control Guess Parameter Array Guess Parameter Names Old Value Error In	Handles user modifications of the Guess Parameter Names and/or Guess Parameter Values in the Settings window. Ensures that both arrays have the same size.			
AlliGator Update Settings IRF Analysis Method Control	error in (no error) Message error out	Update decay shifting parameters in the Settings window.			
AlliGator Update Settings Python Options & Valid Flag	[AlliGator Settings.lvlib:AlliGator Update Settings Python Options & Valid Flag.vi]	Updates Python Plugins options and Valid Session flag in the Settings window.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Update Settings Python Options	error in (no error) error out	Updates Python Plugins options in the Settings window.			
AlliGator Update Settings SEPL Parameters	Gate Parameters Refnum # Gates Gate Separation Error In Gate Duration	Updates SEPL parameters in the Settings window.			

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy \mid \blacksquare \rightarrow Shared reentrancy

Inlining: → Inlined

2.23.2. Library Constant VIs

NOTE No Constant VIs Found

2.24. AlliGator Shot Noise Influence on Average Lifetime.lvlib

Responsibility: VIs used for the Shot Noise Influence on Average Lifetime Analysis Tool.

Version: 1.0.0.0

2.24.1. Functions

Table 24. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Compute Shot Noise Average Lifetime Simulation Histograms	Histogram Bin Size Average Lifetimes (Pure Poi Average Lifetimes (AlliGator) Lifetime Histo Percentiles Error In Histogram Bin Size (SDV) SDV Histo Percentiles	Computes histograms and summary statistics for the computed lifetimes.			
AlliGator Shot Noise Influence on Average Lifetime	Alliquitor (T) Statistics	Main window of the Shot Noise Influence on Average Lifetime tool.			

Name	Connector pane	Description	S.	R.	I.
AlliGator	Simulation Parameters Phasor Parameters Firor In Average Lifetimes (Pure Poi Average Lifetimes (AlliGator) Average Lifetimes SDV (Alli	Performs the simulations used in the Shot			
Simulate	seed Fror Out Message	Noise Influence on Average Lifetime tool.			
Average					
Lifetime of					
Linear					
Combination					

Reentrancy: \blacksquare \rightarrow Preallocated reentrancy $\mid \blacksquare$ \rightarrow Shared reentrancy

Inlining: → Inlined

2.24.2. Library Constant VIs

NOTE No Constant VIs Found

Chapter 3. Legal Information

3.1. Document creation

This document has been generated using the following tools.

3.1.1. Antidoc

Project website: Antidoc

Maintainer website: Wovalab

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3.1.2. Asciidoc for LabVIEWTM

Project website: Asciidoc toolkit

Maintainer website: Wovalab

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3.2. Product used in the project

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