Special – NGS1_A_nn

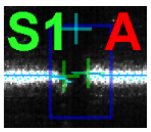
Description

Definition of two rectangles of ROI (**R**egion **O**f **I**nterest) to detect the left resp. right laser line start at the image border. On the left and right side of the the found laser line

- a horizontal LineFit is done to calculate the vertical positions
- a dynamic ROI is placed (on the line) where the intensity of the laser line is measured (plausibility check)
- above the laser line a dynamic ROI is placed where the intensity on the blank is measured as a reference for the binarization in the following subgraphs
- relative to the two vertical positions and with a width value the "Line ROI" is placed where in subgraph NGS1_B the gap is searched for

nn: declaration of the actual subgraph version (here: version 13).

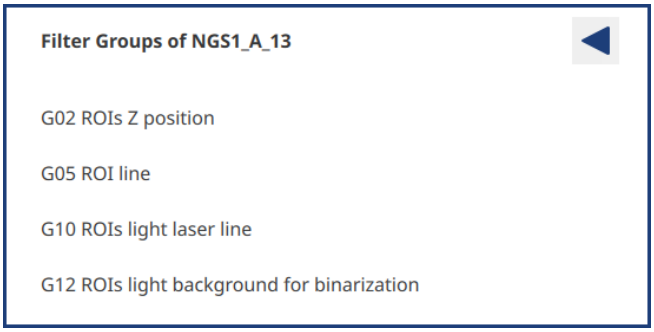
Icon



NGS1_A_13

Comment for the new graph

Parameters

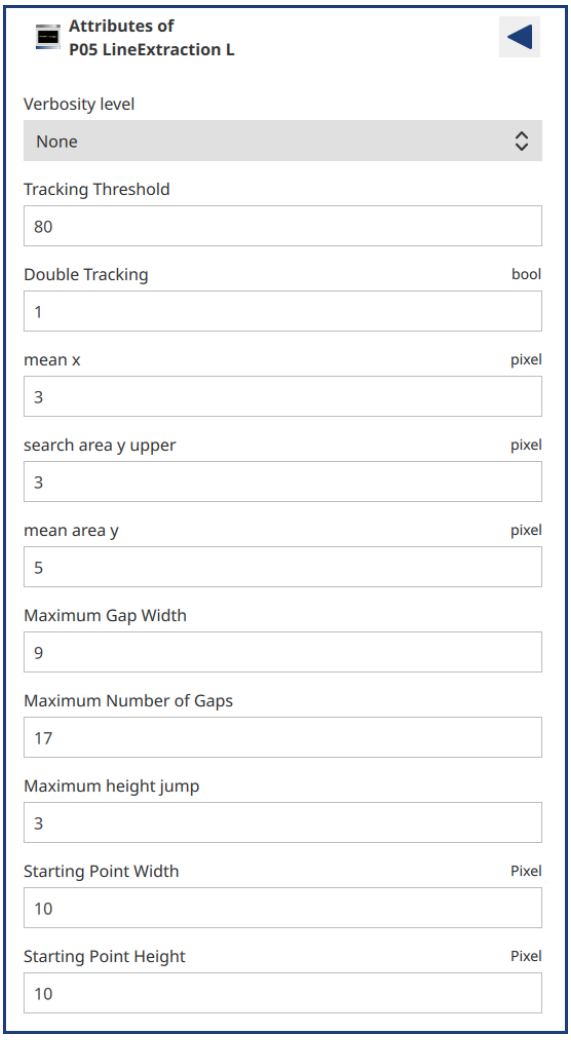


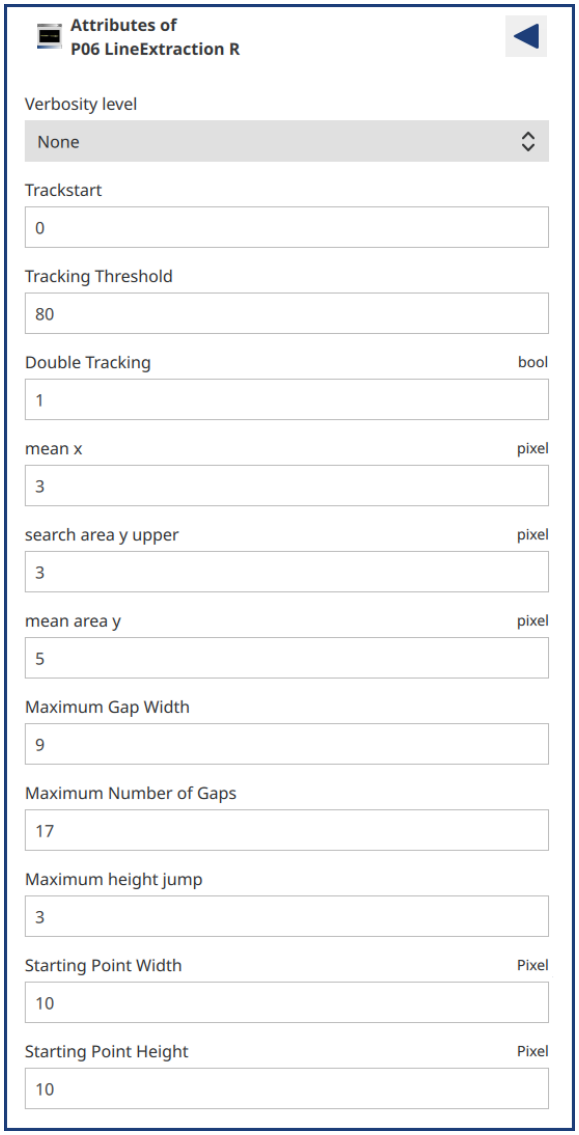
G02 ROIs Z position

Parameter	Comment
Number	Distance from the upper image rim to the upper ROI rim to detect (vertically) the laser line start, resp. distance from the lower image rim to the lower ROI rim to detect (vertically) the laser line start. [Pixel]

Parameter	Comment
Number	Width of the ROI to detect the (vertical) laser line start, with the search starting on the left resp. right image rim. [Pixel]

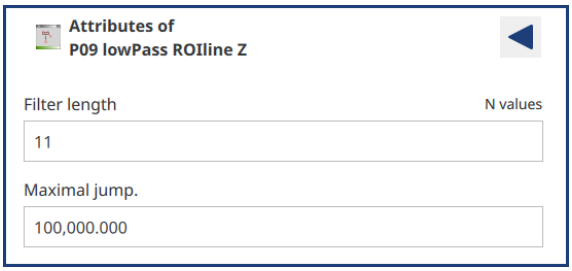
Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information. Display of the left resp. right ROI area for the (vertical) detection of the laserline start as a red rectangle. Also drawn is the ROI area for the "Reference intensity on the laser line" of "G10 ROIs light laser line" as a green rectangle. Also drawn is the ROI area for the "Reference intensity on the blank" of "G12 ROIs light background for binarization" as a green rectangle.



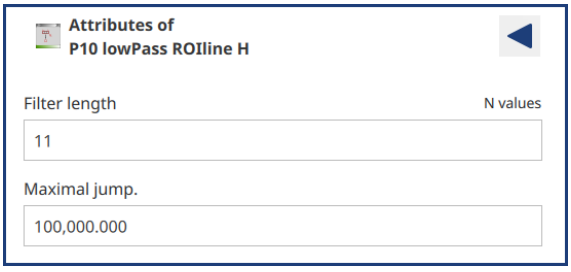


Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information.
Trackstart	If the "DoubleTracking" is off: 0 The laser line tracking is done from left to right. 1 The laser line tracking is done from right to left.
Tracking threshold	Minimum grey scale value for an image pixel that it's defined to belong to the laser line. [Greylevel]
DoubleTracking	0 The laser line is searched from left to right. 1 The laser line is searched from left to right, and then once again from right to left.
mean x	Number of pixels in X direction, used for averaging the brightness in order to define the next point of the laser line. [Pixel]
search area y	This parameter defines the maximum limits for the search area in Y direction, used for searching the next tracking point. [Pixel]
mean area y	Number of pixels in Y direction, over which the "Average brightness in X direction" is averaged, in order to define the next laser line point. [Pixel]
Maximum Gap Width	Maximum allowed width of a laser line interruption: If the number of side by side laying pixels, having a lower grey scale value than the search threshold, exceeds this parameter figure, the line interrupts counter figure is raised by 1. [Pixel]
Maximum Number of Gaps	Maximum number of laser line interrupts: If the number of line interrupts per laser line becomes higher than this parameter, the line search is stopped and a line interrupt warning is released.
Maximum height jump	Maximum interrupt in Y direction: If the height jump of the laser line exceeds this parameter, the line search is stopped. [Pixel]
Starting Point Width	Width of the search area on the left laser line ROI border to find the vertical start position of the laser line. [Pixel]
Starting Point Height	Height of the search area on the left laser line ROI border to find the vertical start position of the laser line. [Pixel]

Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information. Marks the start/end position for the linefit on the left side resp. on the right side with small crosses.

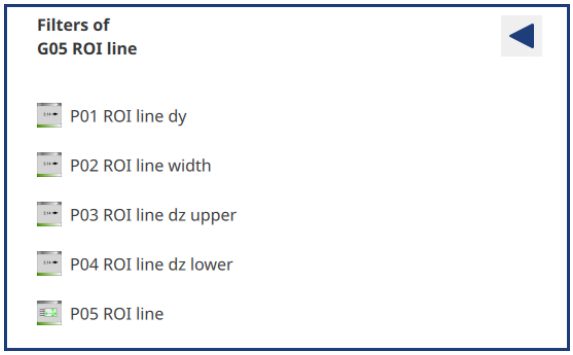


Parameter	Comment
Filter length	Filtering of the vertical positions of the found laser line points.
Maximal jump	Max. allowed distance of the new position to the filtered position that the new position is taken over into the filter. [Pixel]



Parameter	Comment
Filter length	Filtering of the intensity values of the found laser line points.
Maximal jump	Max. allowed difference of the new intensity value to the filtered intensity that the new intensity value is taken over into the filter. [Greylevel]

G05 ROI line



Parameter	Comment
Number	Distance of the "ROI line" for prepositioning from the left image rim. [Pixel]

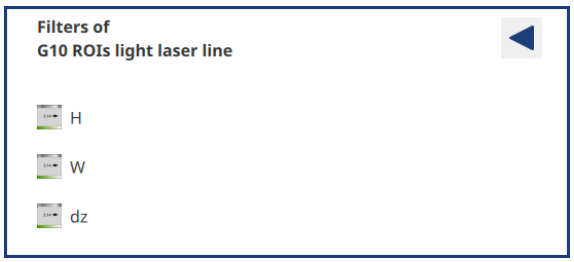
Parameter	Comment
Number	Width of the "ROI line" for prepositioning. [Pixel]

Parameter	Comment
Number	Distance from the (vertical) image center to the upper rim of the "ROI line" for prepositioning.

Parameter	Comment
Number	Distance from the (vertical) image center to the lower rim of the "ROI line" for prepositioning.

Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information. Marks the area of the "ROI line" for prepositioning as a white rectangle.

G10 ROIs light laser line

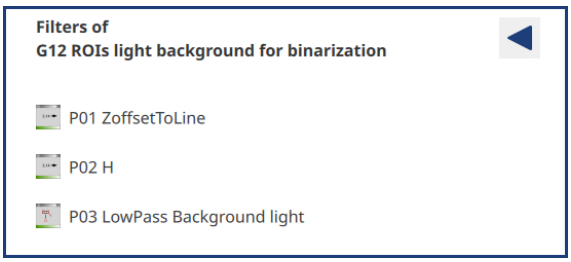


Parameter	Comment
Number	Height of the ROI on the laser line to measure the "Reference intensity on the laser line". [Pixel]

Parameter	Comment
Number	Width of the ROI on the laser line to measure the "Reference intensity on the laser line". [Pixel]

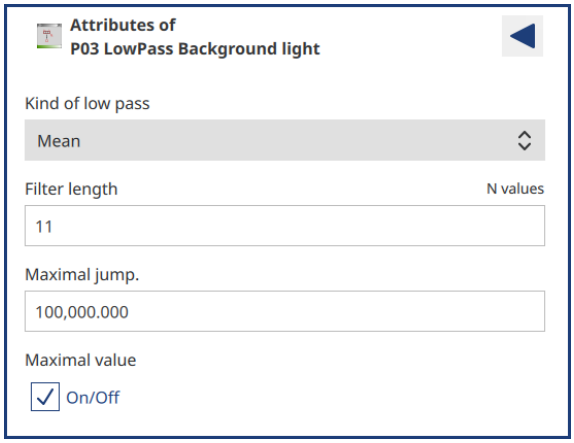
Parameter	Comment
Number	Distance from the (vertical) image center to the upper rim of the ROI on the laser line to measure the "Reference intensity on the laser line". [Pixel]

G12 ROIs light background for binarization



Parameter	Comment
Number	Distance from the (vertical) image center to the upper rim of the ROI to measure the "Reference intensity on the blank". [Pixel]

Parameter	Comment
Number	Height of the ROI on the laser line to measure the "Reference intensity on the blank". [Pixel]



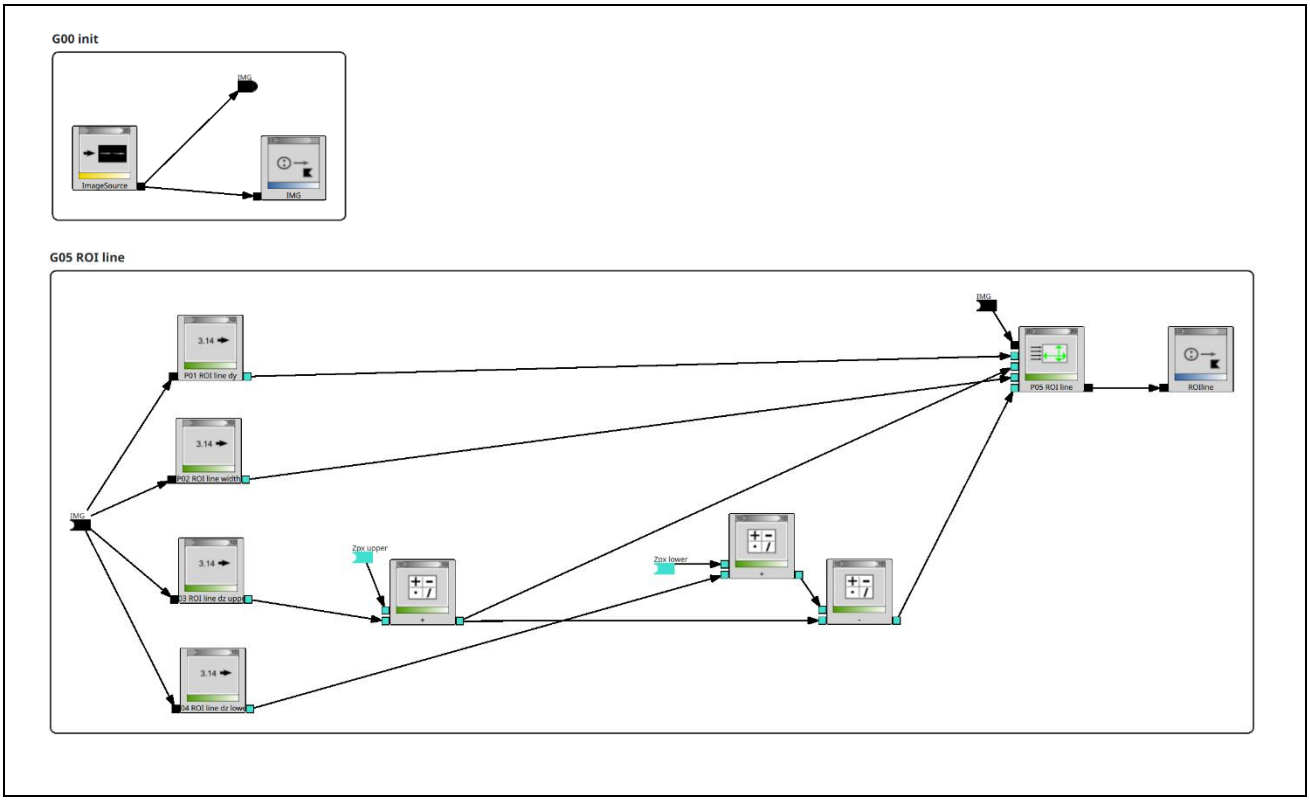
Parameter	Comment
Kind of low pass	**Mean** Mean filter over "Filter length" images **Median** Median filter over "Filter length" images
Filter length	Filtering over the given number of images to smoothen the "Reference intensity on the blank". [Images]
Maximal jump	Max. allowed difference of the new intensity value to the filtered intensity value that the new intensity value is taken over into the filter. [Greylevel]
Maximal value	On "Maximal jump" is considered. Off Switches off "Maximal jump", so any value is taken over.

Measured values for plotter

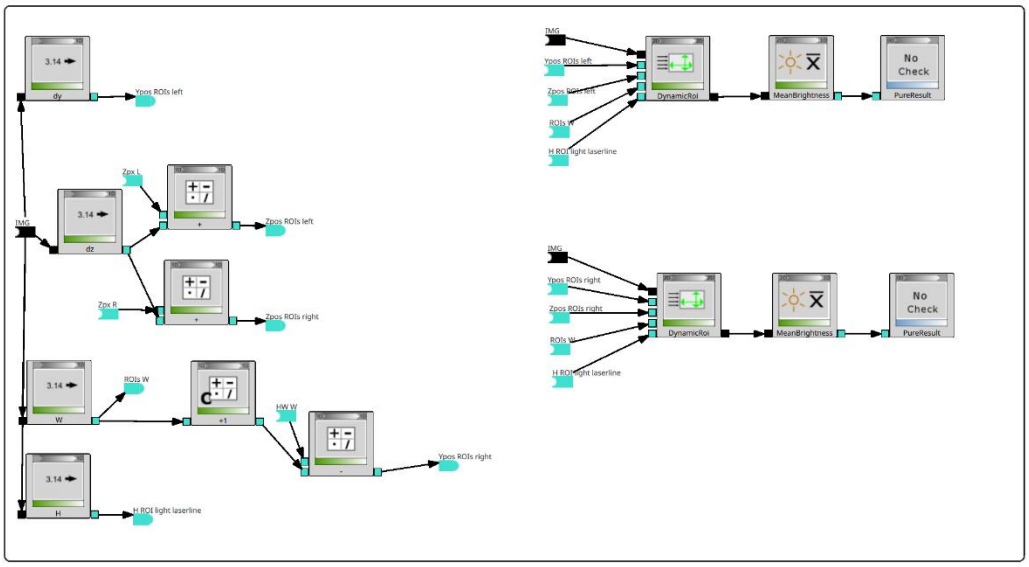
Subgraphs interface

IN bridges		OUT bridges	
		image	IMG ROIline
		value	Zpx left / right Zpx upper / lower HeightDifference raw mm PartIntensity

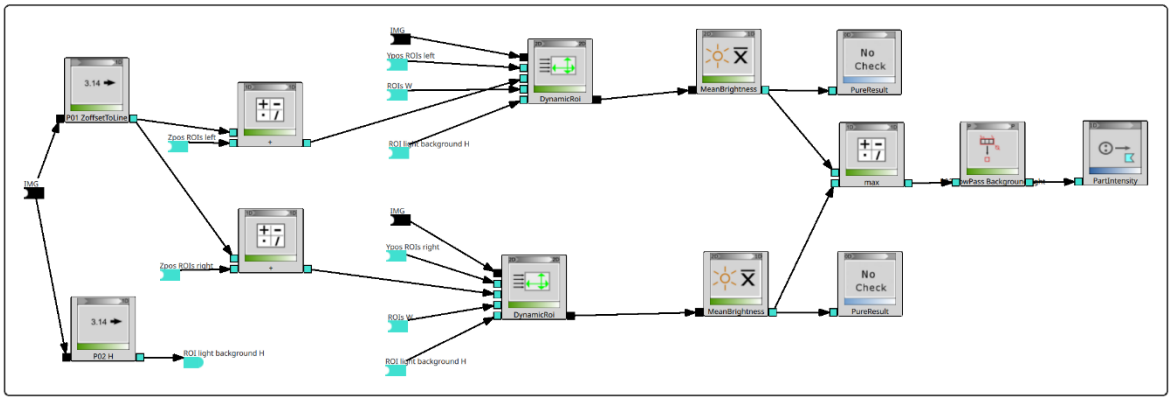
Graph block diagram

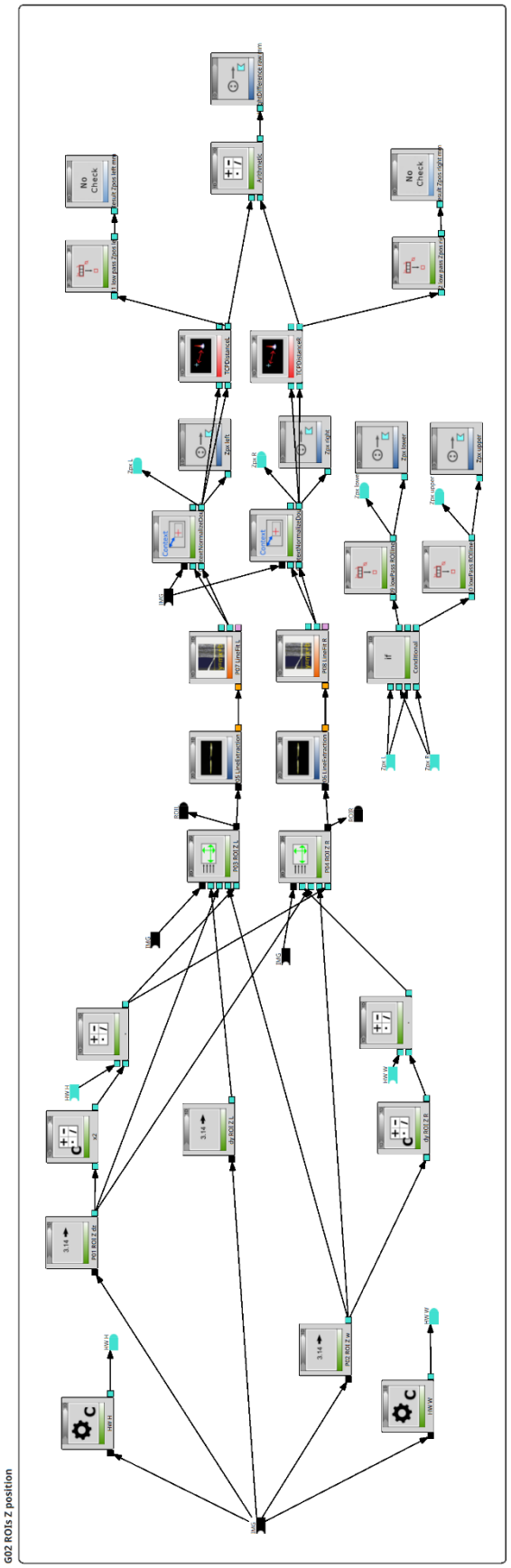


G10 ROIs light laser line



G12 ROIs light background for binarization




G02 ROIs Z position