

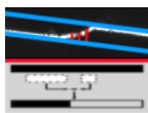


5 - S2a SEARCH Seam LINE LapJoint+GREY Gradient

■ Description

Search seam borders left and right with LapJoint algorithm, adjusting the seam borders with the Gradient algorithm.

■ Icon



5 S2a SEARCH Seam LINE LapJoint+GREY Gradient
Search seam borders left and right

■ Parameters

Filter Groups of 5 S2a SEARCH Seam LINE LapJoint+G...



G11 Seam LapJoint

G20 Seam Gradient

G49 ROI grey FINE

G11 Seam LapJoint

Filters of
G11 Seam LapJoint



04 LapJoint Line Averaging



11 LineFit Moving average

15 Line fit left

16 Line fit right

20 Lap Joint



21 Maxjump


**Attributes of
04 Lapjoint Line Averaging**


Verbosity level
 None

Filter length N Pixel
 - 2 +

Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information.
Filter length	Number of pixels in X direction, used for averaging the brightness in order to define the next point of the laser line. [Pixel]


**Attributes of
11 LineFit Moving average**


Verbosity level
 None

Filter length N Pixel
 - 30 (50) +

Kind of low pass
 Median

Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information.
Filter length	To fit a straight line the vertical positions of the found laser line points are averaged over "Filter length" pixels. [Pixel]
Kind of low pass	Algorithm to filter the found vertical laser line positions: <ul style="list-style-type: none"> • Mean • Median • Minimum • Maximum



**Attributes of
15 Line fit left**

Verbosity level
 None

Start value
 0

End value
 30

Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information.
Start value	Start position in the laser line ROI for the left laser line part. [Percent]
End value	End position in the laser line ROI for the left laser line part. [Percent]


**Attributes of
16 Line fit right**

Verbosity level
 None

Start value
 70

End value
 100

Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information.
Start value	Start position in the laser line ROI for the right laser line part. [Percent]
End value	End position in the laser line ROI for the right laser line part. [Percent]


Attributes of 20 Lap Joint


Verbosity level
 None

Seam start left 15 %

Seam start rechts 85 %

Max. diff. fit/laser line 3 Pix

Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information.
Seam start left	Start position in the laser line ROI to search rightwards for the left seam position. [Percent]
Seam start rechts	Start position in the laser line ROI to search leftwards for the right seam position. [Percent]
Max. diff. fit/laser line	Max. allowed difference between fitting line and laser line. If the difference is bigger the "left/right seam border" is set. [Pixel]


Attributes of 21 Maxjump

Start image number 2

Maximum jump width 20 (100)

Max. diff. Change 50

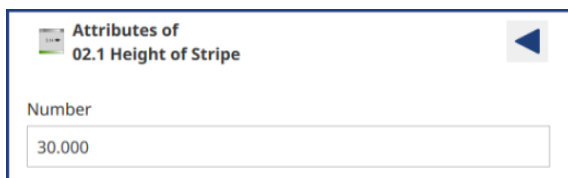
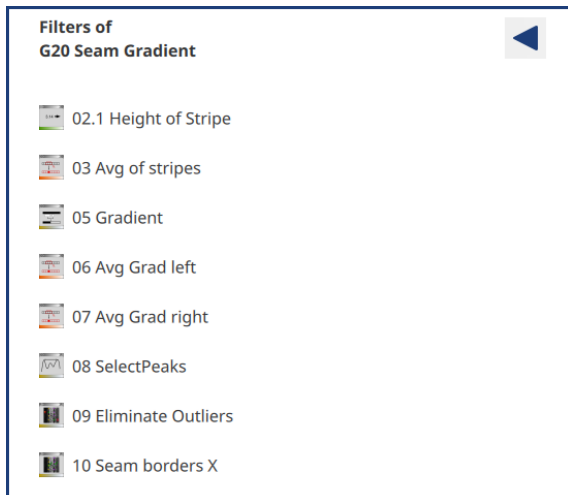
AddOn per image 10 (20)

Parameter	Comment
Start image number	The image number, when the filter becomes active. Value must be 2 or bigger, because at least one value must exist for the filter.
Maximum jump width	Max. allowed (horizontal) change of the seam border positions . If the difference on the left side positions and/or the right side positions is bigger, the old left/right position values are used. [Pixel]



Max. diff. Change	Maximum allowed change of the (horizontal) distance of the two values, which is the seam width. If the change is bigger, the old left/right seam position values are used. [Pixel]
AddOn per image	If one or both seam border positions exceed the allowed "Maximum jump width" or the position distance exceeds the "Max. diff. Change", the actual values of "Maximum jump width" and "Max. diff. Change" are both increased by "AddOn per image". If both seam border positions and the change of the position distance are all OK, the value for "Maximum jump width" and "Max. diff. Change" are both reset to their given parameter values. [Pixel]

G20 Seam Gradient




Parameter	Comment
Number	Height of the horizontal stripes over the grey image ROI. [Pixel]


Attributes of
03 Avg of stripes

Verbosity level
 None

Filter length
 15

Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information.
Filter length	The brightness values of every stripe are filtered for calculating the gradient. [Pixel]


Attributes of
05 Gradient

Verbosity level
 None


Filter radius off seam
 5

Filter radius on seam
 10 (5)

Gradient type
 Bright seam

Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information.
Filter radius off seam	The noisier the brightness is, the higher this parameter must be selected (1 - 100). This smoothens the brightness in every stripe before further processing. Value is for the stripe part outside the seam. [Pixel]
Filter radius on seam	The noisier the brightness is, the higher this parameter must be selected (1 - 100). This smoothens the brightness in every stripe before further processing. Value is for the stripe part inside the seam. [Pixel]
Gradient type	How to check gradients at seam border: <ul style="list-style-type: none"> • Absolute = don't care if the seam intensity is higher or smaller than the blanks intensity • Dark seam = the intensity in the seam is expected to be smaller than the intensity outside on the blanks • Bright seam = the intensity in the seam is expected to be bigger than the intensity outside on the blanks





Attributes of
06 Avg Grad left

Verbosity level
 None

Filter length N Pixel
 - 10 +



Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information.
Filter length	The noisier the brightness is, the higher this parameter must be selected (1 - 100). This eliminates too small intensity changes. [Pixel]


Attributes of
07 Avg Grad right

Verbosity level
 None

Filter length N Pixel
 - 10 +

Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information.
Filter length	The noisier the brightness is, the higher this parameter must be selected (1 - 100). This eliminates too small intensity changes. [Pixel]


Attributes of
08 SelectPeaks


Verbosity level
 None

Default seam width N pixel
 — 120 +

Left gradient threshold Intensity
 — 15 +

Right gradient threshold Intensity
 — 15 +



Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information.
Default seam width	Nominal seam width (in pixel). Guideline for the seam detection. [Pixel]
Left gradient threshold	Minimum brightness gradient in one stripe that is taken and, in order to detect the seam rim, must be surpassed. Separately for the left side. [Greylevel]
Right gradient threshold	Minimum brightness gradient in one stripe that is taken and, in order to detect the seam rim, must be surpassed. Separately for the right side. [Greylevel]


Attributes of
09 Eliminate Outliers


Verbosity level
 None

Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information.




**Attributes of
10 Seam borders X**




Verbosity level
 None

Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information.

G49 ROI grey FINE



**Filters of
G49 ROI grey FINE**


 01 ROI grey FINE
 01.1 Offset left
 01.2 Offset right


**Attributes of
01 ROI grey FINE**




Verbosity level
 None

Parameter	Comment
Verbosity level	Selection of verbosity level. Larger verbosity levels offer more overlay information.


Attributes of
01.1 Offset left


Number

Parameter	Comment
Number	Shifts the left ROI border leftwards away from the left seam border. [Pixel]


Attributes of
01.2 Offset right


Number

Parameter	Comment
Number	Shifts the right ROI border rightwards away from the right seam border. [Pixel]

■ Measured values for plotter

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Subgraphs interface

IN bridges

OUT bridges

image Line value	image ROI grey Line ROI grey X ROI grey Y ROI grey W ROI grey H ROI line valid	image value	ROI preSeam ROI preSeam X ROI preSeam Y ROI preSeam W ROI preSeam H ROI preSeam valid Seam pos left Seam pos right
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Graph block diagram

