

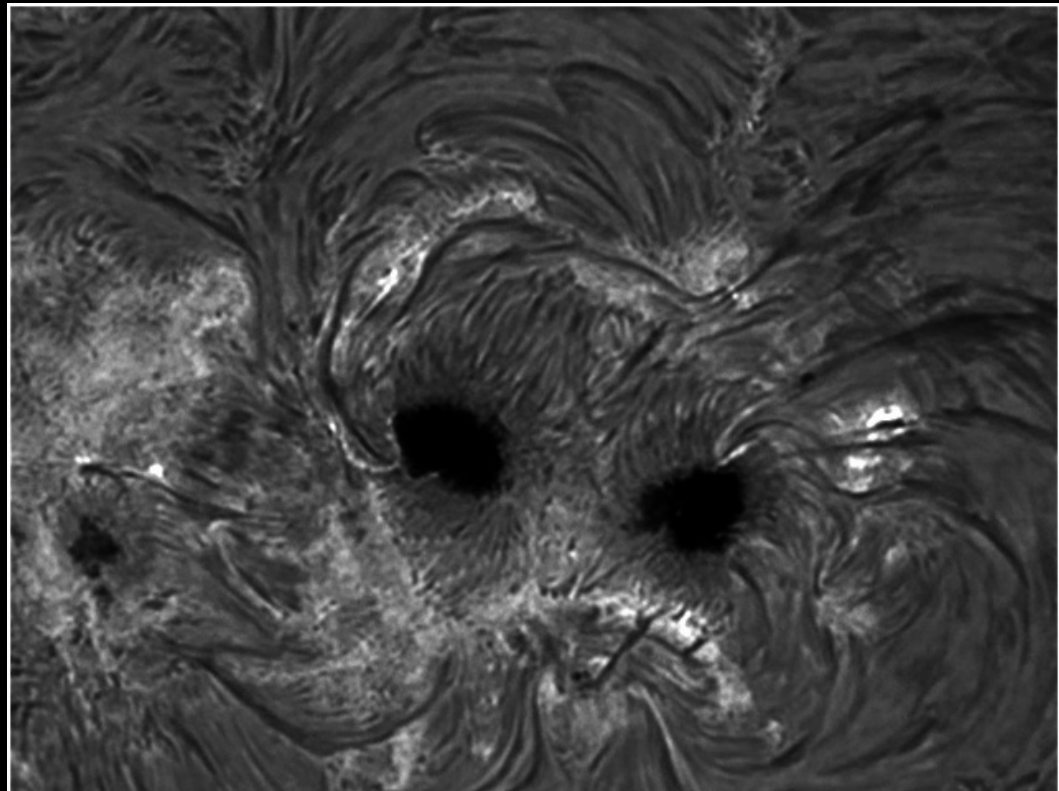
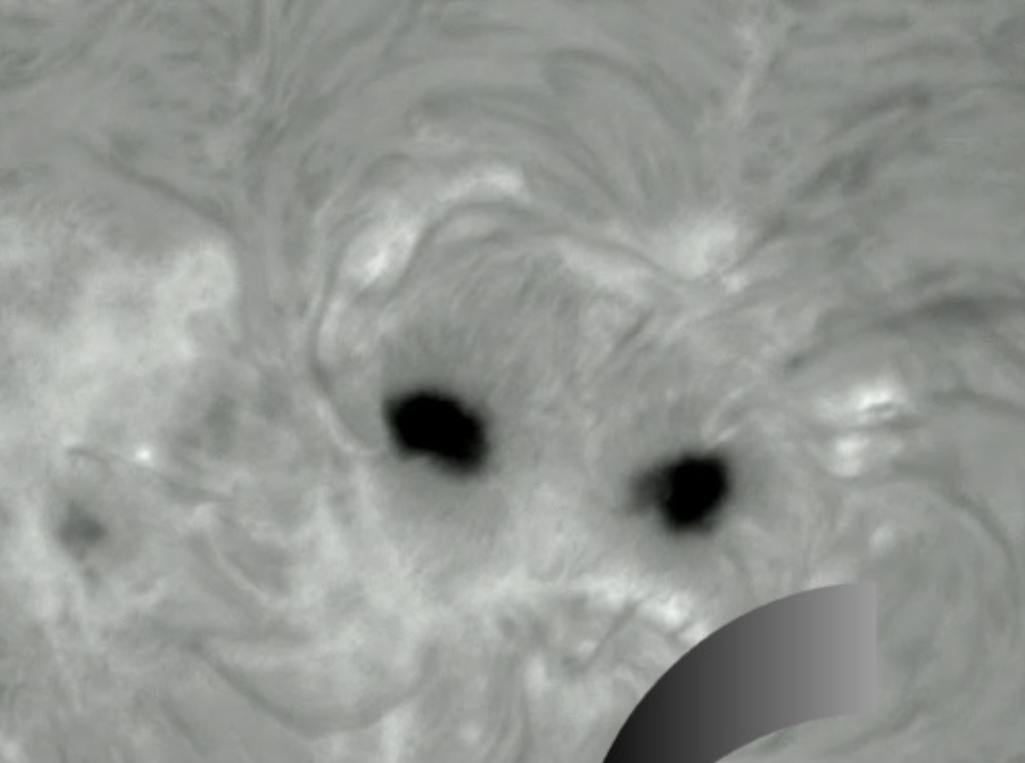
Advanced Processing (1)

Sun H-Alpha

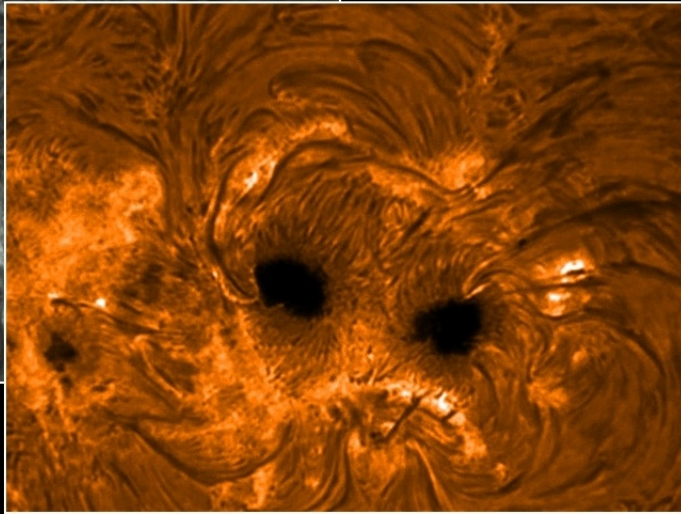
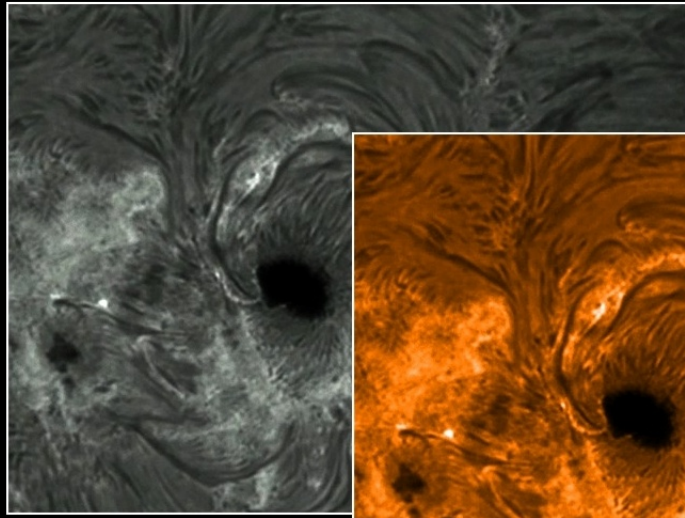


AVI from ToUCam with Astrosnap

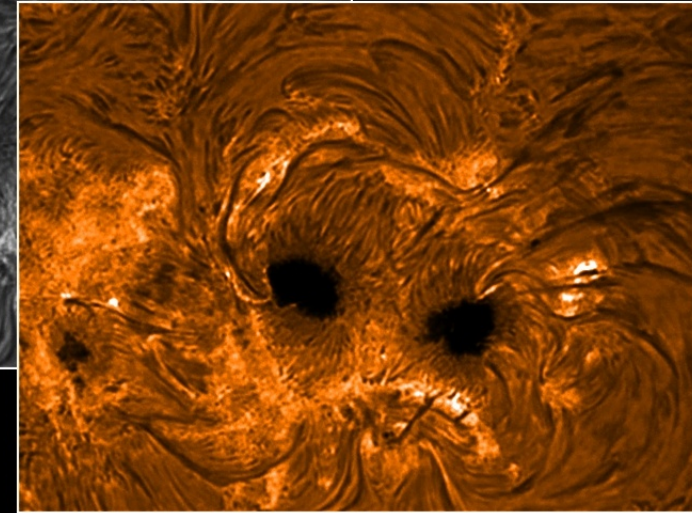
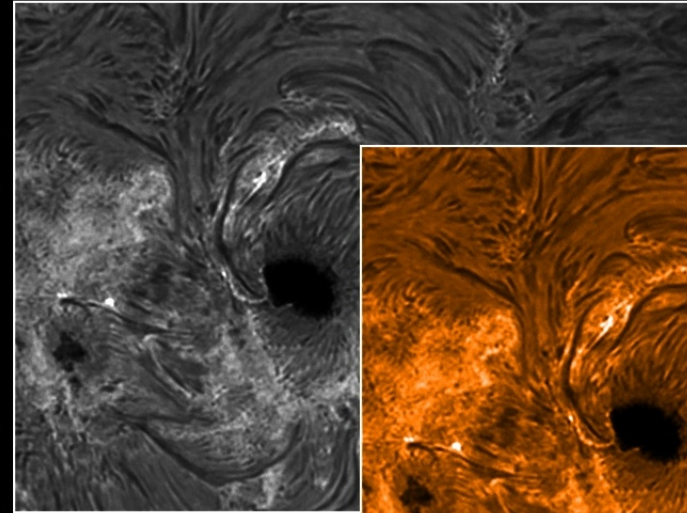
Soleil - H alpha



This time with a « DOT MATRIX » ... results preview !



1 AP



Dot Matrix



AVI loading...

Registax processing AVI: E:\RCE-2008\AVI à Traiter Live\SunHalp.alpha.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:86MB (HD:864136576)

Align Limit Colour Automatic processing FFT Graph Show Frame List Haltwindow Vista LargeAvi
 LRGB View full image Registration Graph Show Zoomed Image Calculate StackSlice Check for dropped frames

Alignment options

Alignmentbox size
 32 128 512
 64 256

Alignment Method
 Default None
 Multi

Region of interest

Manual Alignment
 Userdefined Alignment Box

Processing area

Quality

Gradient2

Lowest quality 95

Use Ninox

Alignment options

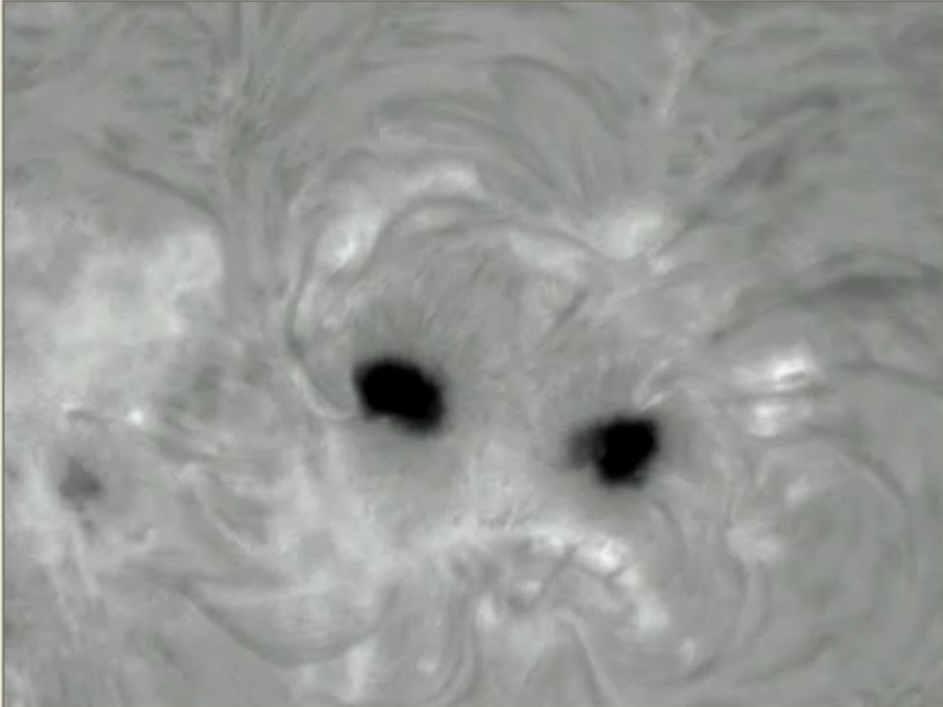
Tracking Settings

Track object
 Predict track
 Misalign warning
 Ignore misaligned frames

Automatic processing

Align to Optimize
 Limit to Optimize
 Optimize to Stack

Language setting



Preview negative Preview gamma Frame (1): 1/160 Goto Frame 1 Auto limit

0% 22-7 Frames : 160 Imagesize : 640x480

Multipoint

Registax processing AVI: E:\RCE-2008\AVI à Traiter Live\SunHalpaha.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:86MB (HD:864136576)

Align Limit Colour Automatic processing FFT Graph Show Frame List Haltwindow Vista LargeAvi LRGB View full image Registration Graph Show Zoomed Image Calculate StackSlice Check for dropped frames

Alignment options

Alignment settings

Alignmentbox size
 32 128 512
 64 256

Alignment Method
 Default None
 Multi

Region of interest

Manual Alignment
 Userdefined Alignment Box
 De - Rotate

Processing area

Quality

Gradient2

Lowest quality 80
 Use Ninox

Tracking Settings

Track object
 Predict track
 Misalign warning
 Ignore misaligned frames

Automatic processing

Align to Optimize
 Limit to Optimize
 Optimize to Stack

Language setting

Multi-alignment_panel

Multi A-method
 Simple Multi-Quantity

Show Alignmentzones
Maximum drift (pix) 5

Absolute Relative

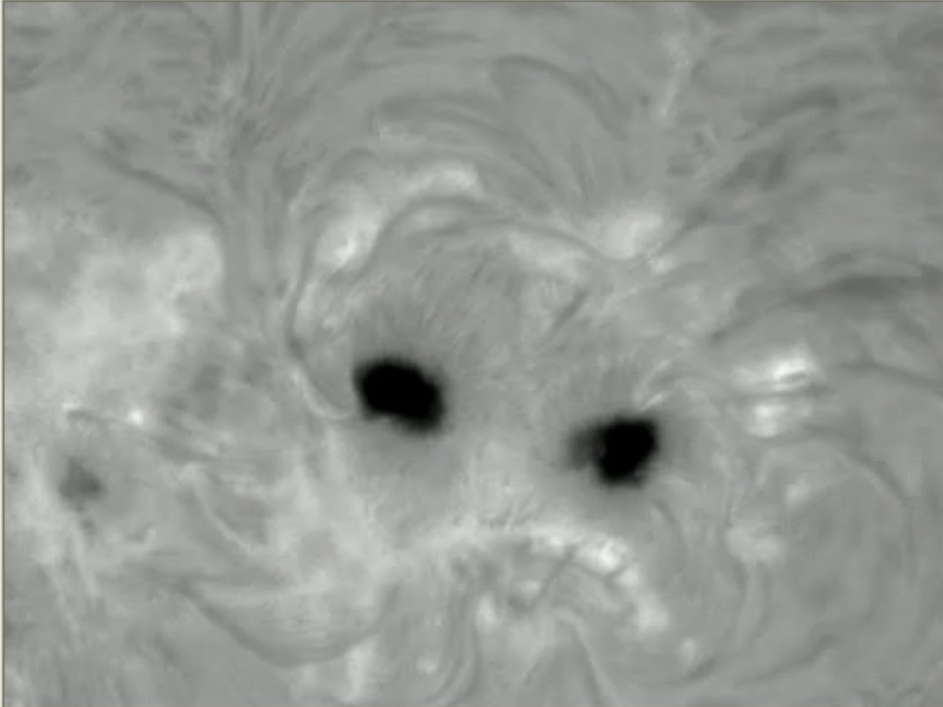
Threshold 9 Radius 5
Minimum distance between points (pix) 64

Create Matrix X Y
2 2

Matrix FFTsize 64
Free space to edge 32

Alignmentpoints: 0

X	Y	FFT
---	---	-----



0% 191-467 | Frames : 160 Imagesize : 640x480

Frame (1): 1/160 Goto Frame 1 Auto limit

Matrix

Registax processing AVI: E:\RCE-2008\AVI à Traiter Live\SunHalpalpha.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:86MB (HD:864136576)

Align Limit Colour Automatic processing FFT Graph Show Frame List Haltwindow Vista LargeAvi Check for dropped frames

LRGB View full image Registration Graph Show Zoomed Image Calculate StackSlice

Alignment options

Alignmentbox size
 32 128 512
 64 256

Alignment Method
 Default None
 Multi

Region of interest

Manual Alignment
 Userdefined Alignment Box
 De - Rotate

Processing area

Quality

Gradient2

Lowest quality

Use Ninox

Tracking Settings

Track object
 Predict track
 Misalign warning
 Ignore misaligned frames

Automatic processing

Align to Optimize
 Limit to Optimize
 Optimize to Stack

Language setting

Multi-alignment_panel

Multi A-method
 Simple Multi-Quantity

Show Alignmentzones

Maximum drift (pix)

Absolute Relative

Threshold Radius

Minimum distance between points (pix)

X Y

Matrix FFTsize

Free space to edge

Alignmentpoints: 27

	X	Y	FFT
1	232	171	128
2	96	96	128
3	96	168	128
4	96	240	128
5	96	312	128
6	96	384	128
7	208	96	128
8	208	168	128
9	208	240	128
10	208	312	128
11	208	384	128
12	320	96	128
13	320	168	128
14	320	240	128
15	320	312	128
16	320	384	128

Preview negative Preview gamma Frame (1): 1/160 Goto Frame Auto limit

0% 364-479 Frames : 160 Imagesize : 640x480

FFT

Registax processing AVI: E:\RCE-2008\AVI à Traiter Live\SunHalpalpha.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:86MB (HD:864136576)

Align Limit Colour Automatic processing FFT Graph Show Frame List Haltwindow Vista LargeAvi
 LRGB View full image Registration Graph Show Zoomed Image Calculate StackSlice Check for dropped frames

Alignment options

Alignmentbox size
 32 128 512
 64 256

Alignment Method
 Default None
 Multi

Region of interest

Manual Alignment
 Userdefined Alignment Box
 De - Rotate

Processing area

Quality

Gradient2

Lowest quality

Use Ninox

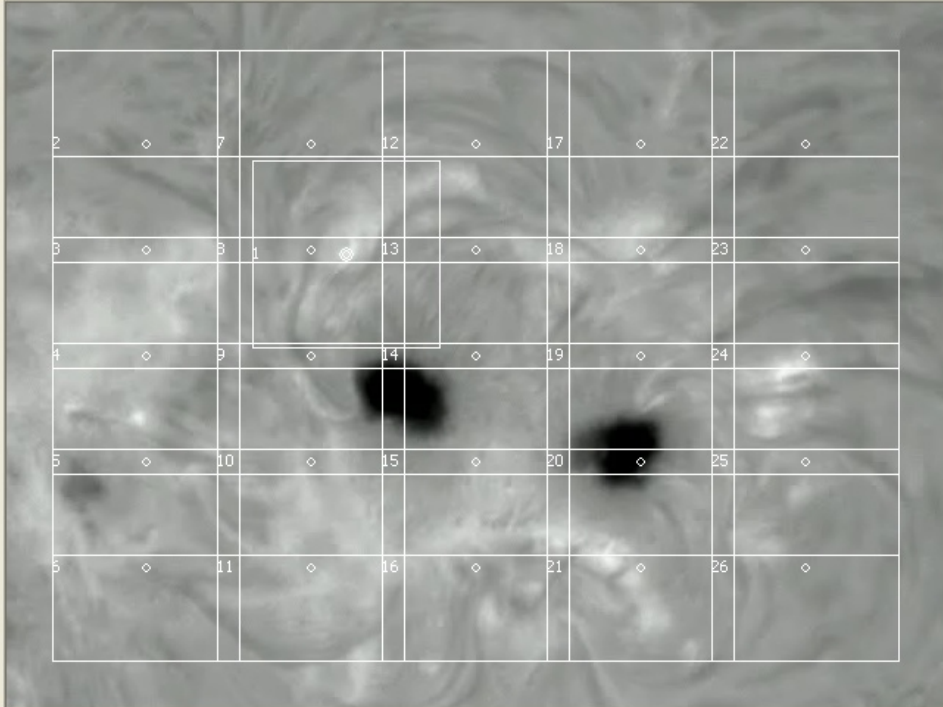
Tracking Settings

Track object
 Predict track
 Misalign warning
 Ignore misaligned frames

Automatic processing

Align to Optimize
 Limit to Optimize
 Optimize to Stack

Language setting



Multi-alignment_panel

Multi A-method
 Simple Multi-Quantity

Show Alignmentzones

Maximum drift (pix)

Absolute Relative

Threshold Radius

Minimum distance between points (pix)

X Y

Matrix FFTsize

Free space to edge

Alignmentpoints: 27

	X	Y	FFT
1	232	171	128
2	96	96	128
3	96	168	128
4	96	240	128
5	96	312	128
6	96	384	128
7	208	96	128
8	208	168	128
9	208	240	128
10	208	312	128
11	208	384	128
12	320	96	128
13	320	168	128
14	320	240	128
15	320	312	128
16	320	384	128

FFT spectrum 128... x

Manual

FFTfilter

Preview negative Preview gamma Frame (1) : (stacksize 1 / 160) [Low quality 0.0 %] Goto Frame Auto limit

0% 510-475 Frames : 160 Imagesize : 640x480

Choice of discriminator

Registax processing AVI: E:\RCE-2008\AVI à Traiter Live\SunHalpalpha.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:86MB (HD:864136576)

Align Limit Colour Automatic processing FFT Graph Show Frame List Haltwindow Vista LargeAvi
 LRGB View full image Registration Graph Show Zoomed Image Calculate StackSlice Check for dropped frames

Alignment options

Alignmentbox size
 32 128 512
 64 256

Alignment Method
 Default None
 Multi

Region of interest

Manual Alignment
 Userdefined Alignment Box
 De - Rotate

Processing area

Quality

Gradient2

Lowest quality
 Use Ninox

Tracking Settings

Track object
 Predict track
 Misalign warning
 Ignore misaligned frames

Automatic processing

Align to Optimize
 Limit to Optimize
 Optimize to Stack

Language setting

Multi-alignment_panel

Multi A-method
 Simple Multi-Quantity

Show Alignmentzones
 Maximum drift (pix)

Absolute Relative

Threshold Radius

Minimum distance between points (pix)

X Y

Matrix FFTsize

Free space to edge

Alignmentpoints: 27

	X	Y	FFT
1	232	171	128
2	96	96	128
3	96	168	128
4	96	240	128
5	96	312	128
6	96	384	128
7	208	96	128
8	208	168	128
9	208	240	128
10	208	312	128
11	208	384	128
12	320	96	128
13	320	168	128
14	320	240	128
15	320	312	128
16	320	384	128

FFT spectrum 128...

Manual

FFTfilter

Preview negative Preview gamma

Frame (1) : (stacksize 1 / 160) [Low quality 0.0 %] Goto Frame Auto limit

0% 12-393 | Frames : 160 Imagesize : 640x480

Alignement...

Registax processing AVI: SunHalpna.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:86MB (HD:864136576)

Align Limit Colour Automatic processing FFT Graph Show Frame List Haltwindow Vista LargeAvi
 LRGB View full image Registration Graph Show Zoomed Image Calculate StackSlice Check for dropped frames

Align settings

Alignmentbox size
 32 128 512
 64 256

Alignment Method
 Default None
 Multi

Region of interest

Manual Alignment
 Userdefined Alignment Box
 De - Rotate

Processing area

Quality

Gradient2
Lowest quality 80
 Use Ninox

Tracking Settings

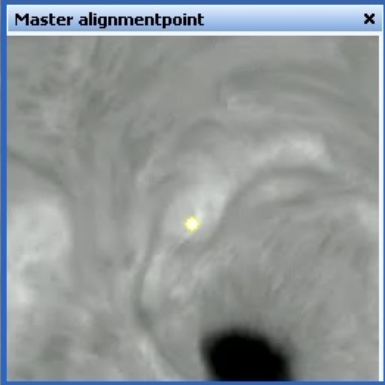
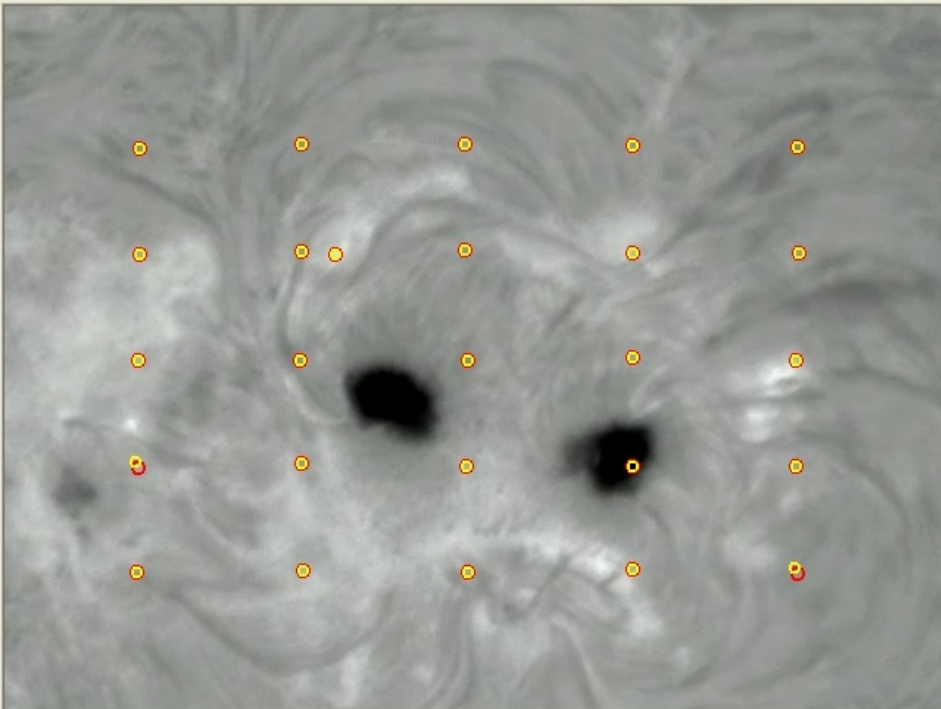
Track object
 Predict track
 Misalign warning
 Ignore misaligned frames

Automatic processing

Align to Optimize
 Limit to Optimize
 Optimize to Stack

Language setting

Master alignmentpoint



8% 1Processing Frame:12 Fps 0.656 Alignment processing

Frame (1) : (stacksize 1 / 160) [Low quality 0.0 %] Goto Frame 1 Auto limit

Reference image ...

Registax processing AVI: SunHalp...avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:86MB (HD:864136576)

Optimize & Stack Optimize Optimizer mode
 V4 style V5 style

Optimizer setting

Optimizer Limits
Search area 1 pixels
Optimize until less than 1% improvement

Graphs
 Difference
 Movements

Options
 Single run optimizer
 Reset alignmentpoints

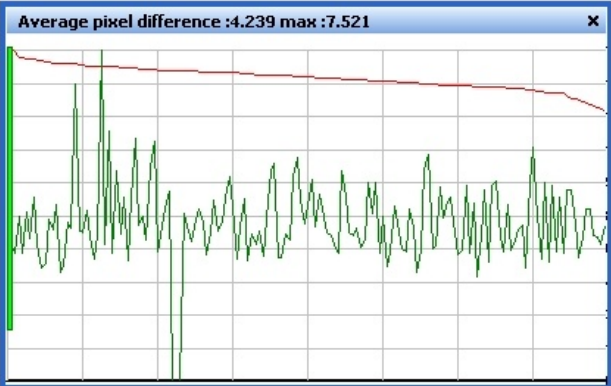
Reference-Frame

Create a Reference frame
Frames to stack
Create Reference 5

Resample/Drizzle

Style: None Resampling Drizzling
Method: Bell
Factor: 2.0

Average pixel difference :4.239 max :7.521



Movements

Xmove
Ymove

100% | Optimizer stage | Alignment processing

Work on reference image...

Registax processing AVI: SunHalpHa.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:93MB (HD:864136576)

Process Do All **Save image** Realign_with Processed Reset Continue

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- High Pass

Wavelet filter
 Default Gaussian

Waveletscheme
 Dyadic (2^n) Linear

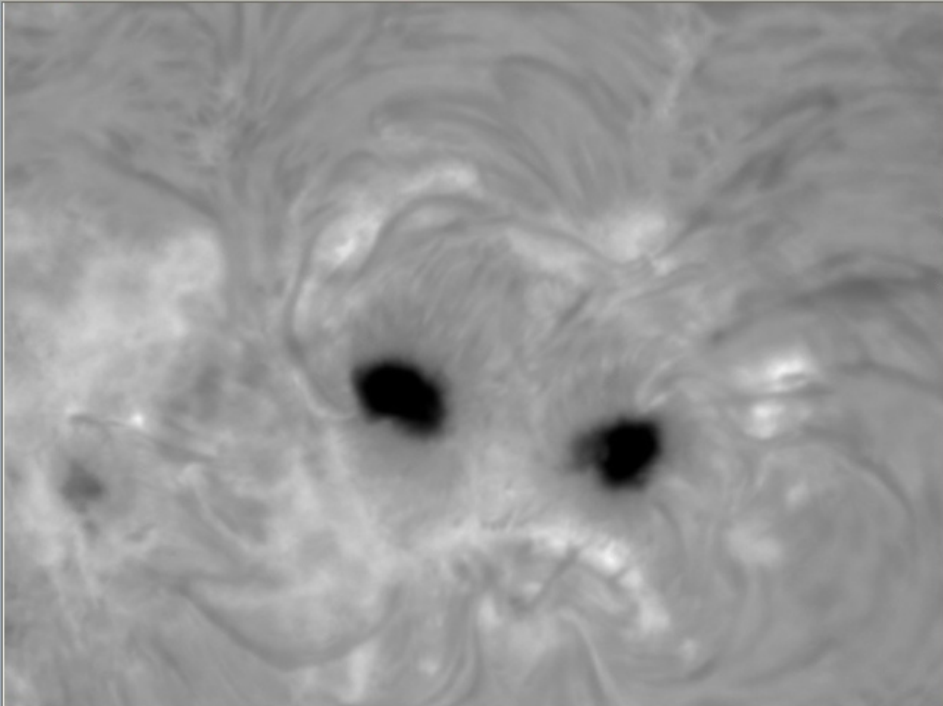
Initial Layer 1 Step Increment 0

Layer Preview

- 1:1 0.10 1.0
- 2:1 0.10 1.0
- 3:1 0.10 1.0
- 4:1 0.10 1.0
- 5:1 0.10 1.0
- 6:1 0.10 1.0

Load Scheme Save Scheme

Gradient threshold 500



Graphs

- Histogram Gamma
- Resize Image RGB Balance
- Wavelet Filter View Stacksize
- View Gradient

Clipboard

- Copy to Clipboard Difference with Clipboard
- Toggle
 - Current Image
 - Clipboard Image
- Clipboardfront

Contrast/Brightness

Contrast Brightness

Reset 100 0

Hold Settings

100% Calculating wavelets done Stack size (n=5) - (640x480)

Wavelets and noise reduction (use of layer 1) ...

Registax processing AVI: SunHalpna.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:93MB (HD:864136576)

Process Do All Save image Realign_with Processed Reset Continue Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- High Pass

Wavelet filter: Default Gaussian

Waveletscheme: Dyadic (2^n) Linear

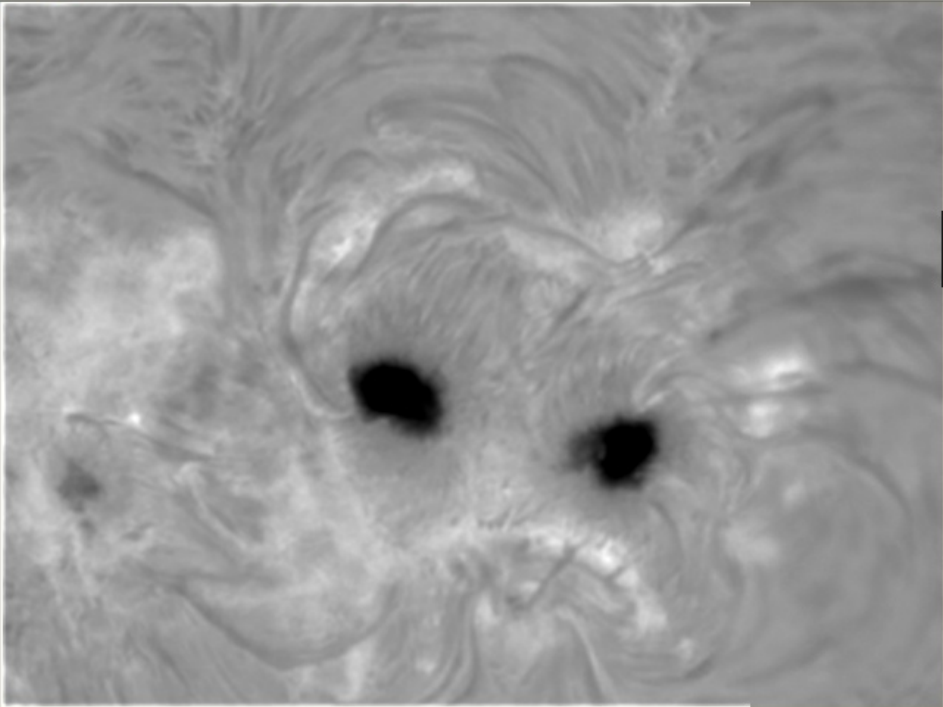
Initial Layer: 1 Step Increment: 0

Layer Preview

- 1:1 0.30 1.0
- 2:1 0.10 70.6
- 3:1 0.10 1.0
- 4:1 0.10 1.0
- 5:1 0.10 1.0
- 6:1 0.10 1.0

Load Scheme Save Scheme

Gradient threshold 500



Graphs

- Histogram Gamma
- Resize Image RGB Balance
- Wavelet Filter View Stacksize
- View Gradient

Clipboard

- Copy to Clipboard Difference with Clipboard
- Toggle: Current Image Clipboard Image
- Clipboardfront

Contrast/Brightness

Contrast Brightness

Reset 100 0

Hold Settings

100% layer setting changed Stack size (n=5) - (640x480)

Do all ...

Registax processing AVI: SunHalpHa.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:93MB (HD:864136576)

Process **Do All** Save image Realign_with Processed Reset Continue

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- High Pass

Wavelet filter
 Default Gaussian

Waveletscheme
 Dyadic (2^n) Linear

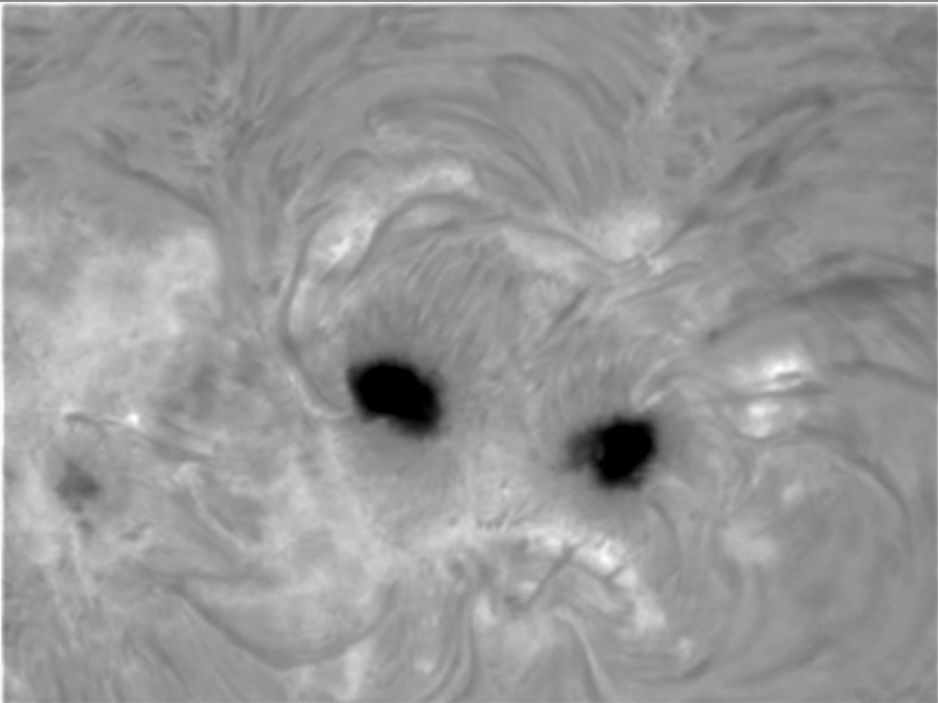
Initial Layer 1 Step Increment 0

Layer Preview

- 1:1 0.30 1.0
- 2:1 0.10 70.6
- 3:1 0.10 1.0
- 4:1 0.10 1.0
- 5:1 0.10 1.0
- 6:1 0.10 1.0

Load Scheme Save Scheme

Gradient threshold 500



Graphs

- Histogram Gamma
- Resize Image RGB Balance
- Wavelet Filter View Stacksize
- View Gradient

Clipboard

- Copy to Clipboard Difference with Clipboard
- Toggle
 - Current Image
 - Clipboard Image
- Clipboardfront

Contrast/Brightness

Contrast Brightness

Reset 100 0

Hold Settings

100% Do_all processing finished Stack size (n=5) - (640x480)

Continue ...

Registax processing AVI: SunHalpHa.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:93MB (HD:864136576)

Process Do All Save image Realign_with Processed Reset Continue

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- High Pass

Wavelet filter
 Default Gaussian

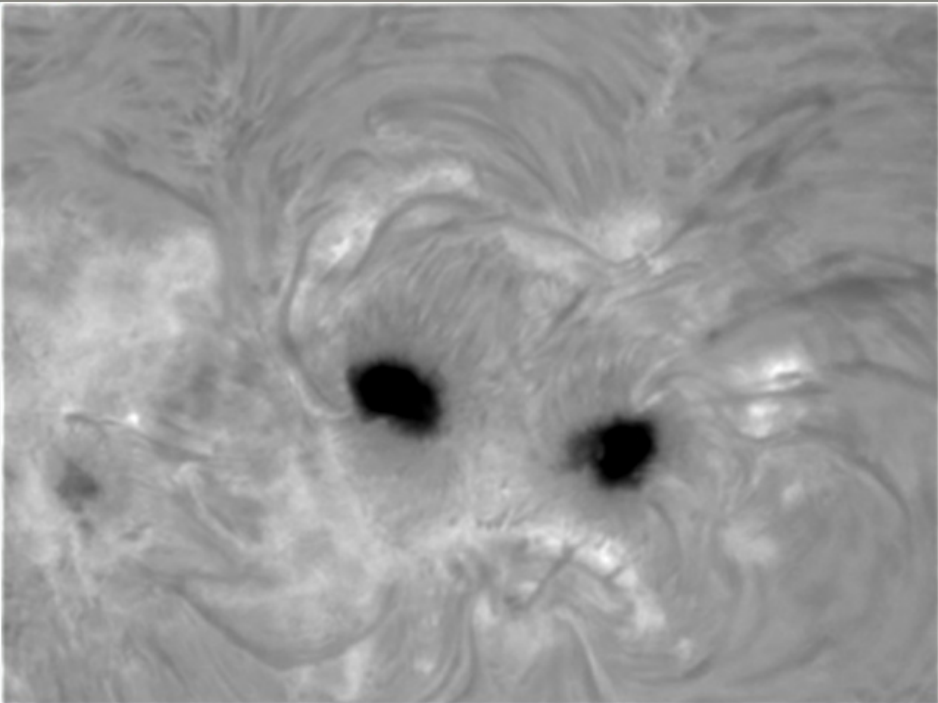
Waveletscheme
 Dyadic (2^n) Linear

Initial Layer 1 Step Increment 0

Layer	Preview
<input type="checkbox"/> 1:1 0.30 1.0	
<input checked="" type="checkbox"/> 2:1 0.10 70.6	
<input checked="" type="checkbox"/> 3:1 0.10 1.0	
<input checked="" type="checkbox"/> 4:1 0.10 1.0	
<input checked="" type="checkbox"/> 5:1 0.10 1.0	
<input checked="" type="checkbox"/> 6:1 0.10 1.0	

Load Scheme Save Scheme

Gradient threshold 500



Graphs

Histogram Gamma

Resize Image RGB Balance

Wavelet Filter View Stacksize

View Gradient

Clipboard

Copy to Clipboard Difference with Clipboard

Toggle
 Current Image
 Clipboard Image

Clipboardfront

Contrast/Brightness

Contrast Brightness

Reset 100 0

Hold Settings

100% Do_all processing finished pixel x:178 y:1 stacksize: 6.0 R: 0.0 G: 113.0 B: 0.0

Optimisation...

Registax processing AVI: SunHalpalpha.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:93MB (HD:864136576)

Optimize & Stack Optimize Optimizer mode
 V4 style V5 style

Optimizer setting

Optimizer Limits
Search area 1 pixels
Optimize until less than 1% improvement

Graphs
 Difference
 Movements

Options
 Single run optimizer
 Reset alignmentpoints

Reference-Frame

Create a Reference frame
Frames to stack
Create Reference 5

Resample/Drizzle

Style: None Resampling Drizzling
Method: Bell
Factor: 2.0

Reference Current
Processing 123

Initial optimizing run Alignmentpoint 1

Time	Quality	Difference
0	High	Low
1	High	Low
2	High	Low
3	High	Low
4	High	Low
5	High	Low
6	High	Low
7	High	Low
8	High	Low
9	High	Low
10	High	Low

Movements

```
x sum:10  
y sum:4
```

100% | 2Processing frame :158 | Stacksize: 1 Low quality :100.00%

Stack ...

Registax processing AVI: SunHalpaha.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:93MB (HD:864136576)

Stack Save image Colour LRGB Stack Mode Standard Sigmaclip

Stacking Options

Options

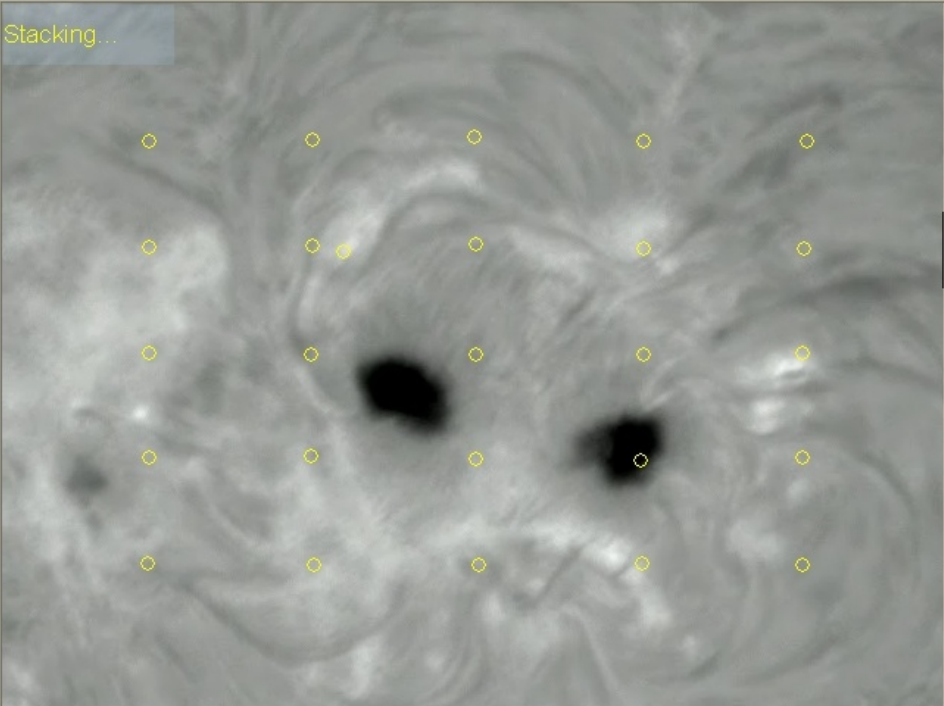
- Expand to maximum imagesize
- Stretch histogram after stacking
- Normalize intensity over frames
- Show Stacklist
- Show Stackgraph

Do not stack pixels at the framee

Multi-point stacking options

- Fast method
- Use feather of pixels
- Show alignment sections
- OptimalDerotate

Stacking...



9% 2Processing frame :15 Final Stack size (n=158) - (640x480)

E-mail Scanner Scanning message #12499

After wavelets, re-alignment ...

Registax processing AVI: SunHalpHa.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:93MB (HD:864136576)

Process Do All **Save image** Realign_with Processed Reset

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- High Pass

Wavelet filter
 Default Gaussian

Waveletscheme
 Dyadic (2^n) Linear

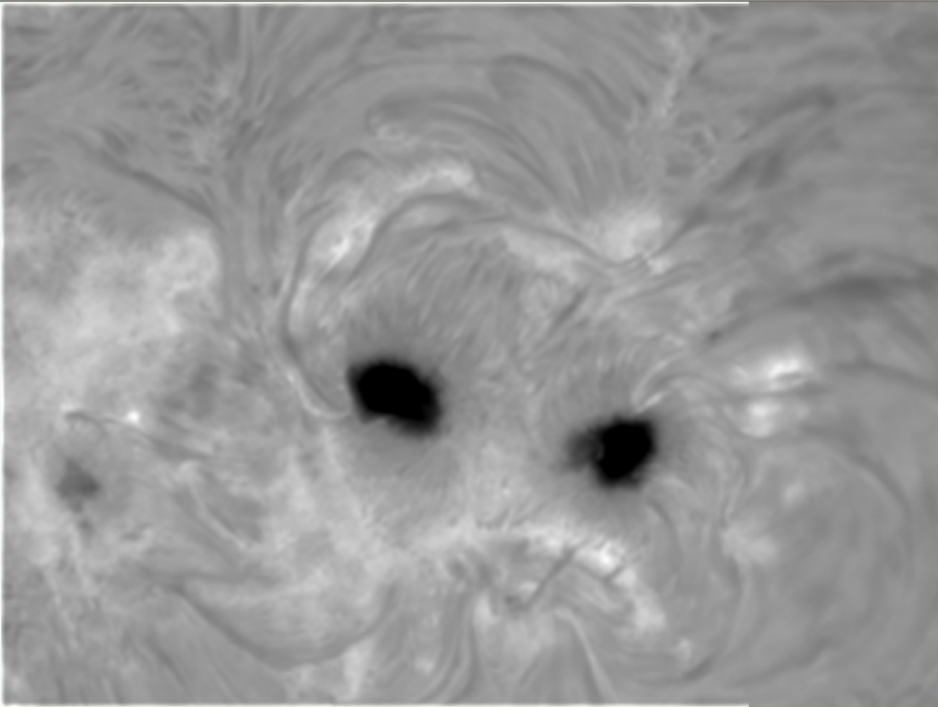
Initial Layer 1 Step Increment 0

Layer Preview

- 1 : 1 0.30 1.0
- 2 : 1 0.10 70.6
- 3 : 1 0.10 1.0
- 4 : 1 0.10 1.0
- 5 : 1 0.10 1.0
- 6 : 1 0.10 1.0

Load Scheme Save Scheme

Gradient threshold 500



Graphs

Histogram Gamma

Resize Image RGB Balance

Wavelet Filter View Stacksize

View Gradient

Clipboard

Copy to Clipboard Difference with Clipboard

Toggle

- Current Image
- Clipboard Image

Clipboardfront

Contrast/Brightness

Contrast Brightness

Reset 100 0

Hold Settings

100% Calculating wavelets done Stack size (n=158) - (640x480)

Realignment ...

Registax processing AVI: SunHalpalpha.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:93MB (HD:864136576)

Optimize & Stack Optimize Optimizer mode
 V4 style V5 style

Optimizer setting

Optimizer Limits
Search area 1 pixels
Optimize until less than 1% improvement

Graphs
 Difference
 Movements

Options
 Single run optimizer
 Reset alignmentpoints

Reference-Frame

Create a Reference frame
Frames to stack
Create Reference 5

Resample/Drizzle

Style: None Resampling Drizzling
Method: Bell
Factor: 2.0

Reference Current
Processing 80

Alignmentpoint 1 Average pixel difference :4.137 max :5.101

Movements
x sum:296
y sum:201

100% Calculating wavelets done Stack size (n=158) - (640x480)

Optimisation ...

Registax processing AVI: SunHalpna.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:93MB (HD:864136576)

Optimize & Stack Optimize Optimizer mode
 V4 style V5 style

Optimizer setting

Optimizer Limits
Search area 1 pixels
Optimize until less than 1% improvement

Graphs
 Difference
 Movements

Options
 Single run optimizer
 Reset alignmentpoints

Reference-Frame

Create a Reference frame
Frames to stack
Create Reference 5

Resample/Drizzle

Style: None Resampling Drizzling
Method: Bell
Factor: 2.0

Reference Current
Processing 80

Alignmentpoint 1 Average pixel difference :4.137 max :5.101

Movements
x sum:296
y sum:201

100% Calculating wavelets done Stack size (n=158) - (640x480)

Stack ...

Registax processing AVI: SunHalpha.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:93MB (HD:864136576)

Stack Save image Colour Stack Mode
 LRGB Standard Sigmaclip

Stacking Options

Options

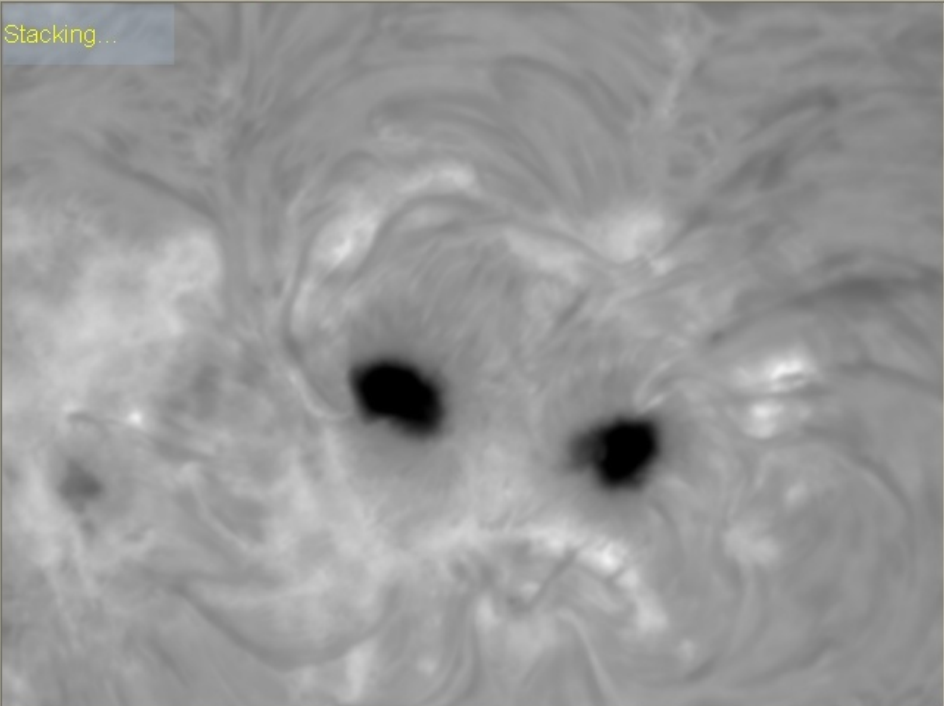
- Expand to maximum imagesize
- Stretch histogram after stacking
- Normalize intensity over frames
- Show Stacklist
- Show Stackgraph

Do not stack pixels at the framee

Multi-point stacking options

- Fast method
- Use feather of pixels
- Show alignment sections
- OptimalDerotate

Stacking...



20% | 2Processing frame :31 | Final Stack size (n=158) - (640x480)

Wavelets

Registax processing AVI: SunAlpha.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:93MB (HD:864136576)

Process Do All **Save image** Realign_with Processed Reset

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- High Pass

Wavelet filter
 Default Gaussian

Waveletscheme
 Dyadic (2^n) Linear

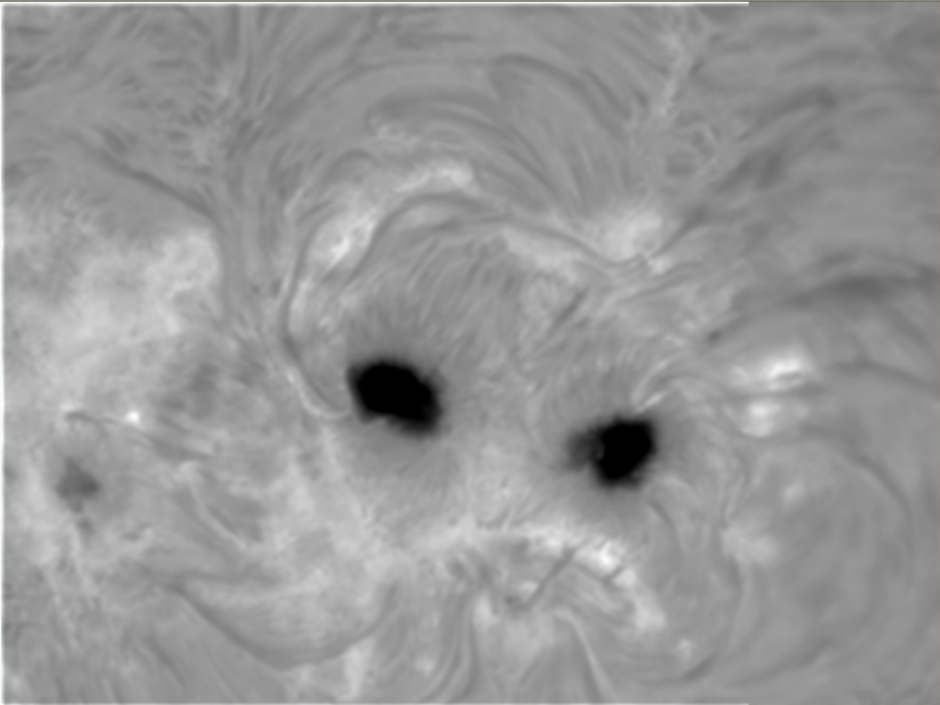
Initial Layer 1 Step Increment 0

Layer Preview

- 1:1 0.30 1.0
- 2:1 0.10 70.6
- 3:1 0.10 1.0
- 4:1 0.10 1.0
- 5:1 0.10 1.0
- 6:1 0.10 1.0

Load Scheme Save Scheme

Gradient threshold 500



Histogram Gamma

Resize Image RGB Balance

Wavelet Filter View Stacksize

View Gradient

Clipboard

Copy to Clipboard Difference with Clipboard

Toggle

- Current Image
- Clipboard Image

Clipboardfront

Contrast/Brightness

Contrast Brightness

Reset 100 0

Hold Settings

100% Calculating wavelets done pixel x:3 y:273 stacksize: 187.0 R: 0.0 G: 193.0 B: 0.0

Wavelets and noise trapping ...

Registax processing AVI: SunAlpha.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:94MB (HD:864136576)

Process Do All **Save image** Realign_with Processed Reset

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- High Pass

Wavelet filter: Default Gaussian

Waveletscheme: Dyadic (2^n) Linear

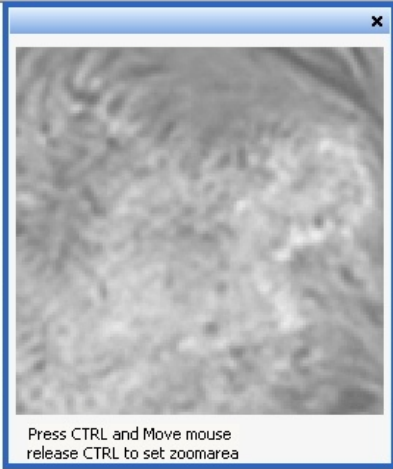
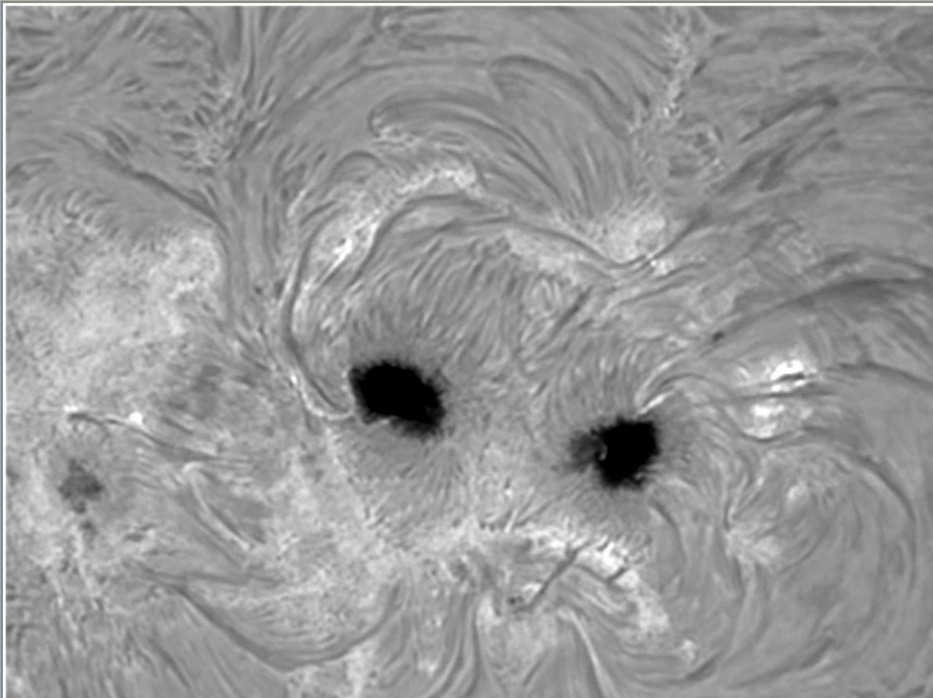
Initial Layer: 1 Step Increment: 0

Layer Preview

<input type="checkbox"/> 1:1	0.15	1.0
<input checked="" type="checkbox"/> 2:1	0.10	100
<input checked="" type="checkbox"/> 3:1	0.10	79.9
<input checked="" type="checkbox"/> 4:1	0.10	50.5
<input checked="" type="checkbox"/> 5:1	0.10	1.0
<input checked="" type="checkbox"/> 6:1	0.10	1.0

Load Scheme Save Scheme

Gradient threshold 500



Press CTRL and Move mouse
release CTRL to set zoomarea

Graphs

Histogram Gamma

Resize Image RGB Balance

Wavelet Filter View Stacksize

View Gradient

Clipboard

Copy to Clipboard Difference with Clipboard

Toggle

- Current Image
- Clipboard Image

Clipboardfront

Contrast/Brightness

Contrast Brightness

Reset 100 0

Hold Settings

100% Do_all processing finished pixel x:87 y:191 stacksize: 151.0 R: 0.0 G: 171.6 B: 0.0

Saving of Wv params ...

Registax processing AVI: SunHalpna.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:94MB (HD:864136576)

Process Do All **Save image** Realign_with Processed Reset

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- High Pass

Wavelet filter
 Default Gaussian

Waveletscheme
 Dyadic (2^n) Linear

Initial Layer 1 Step Increment 0

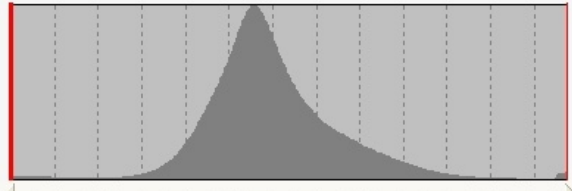
Layer Preview

- 1:1 0.15 1.0
- 2:1 0.10 100
- 3:1 0.10 79.9
- 4:1 0.10 50.5
- 5:1 0.10 1.0
- 6:1 0.10 1.0

Load Scheme Save Scheme

Gradient threshold 500

Histogram_Panel



0 255

lo: 0 hi: 255

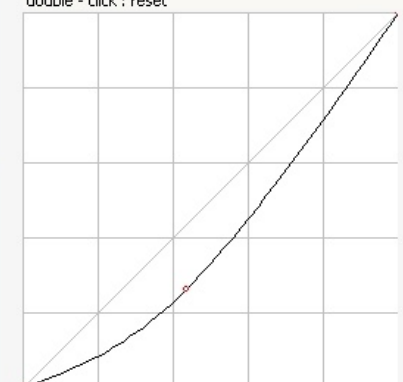
Smoothing value 5

Stretch Reset

Log-based graph

Gamma_Panel

right-click : insert a point ctrl-left-click : delete a point double - click : reset



Linear

Load Save Reset

Gamma (overrules graph) 1.00

Graphs

Histogram Gamma

Resize Image RGB Balance

Wavelet Filter View Stacksize

View Gradient

Clipboard

Copy to Clipboard Difference with Clipboard

Toggle

- Current Image
- Clipboard Image

Clipboardfront

Contrast/Brightness

Contrast Brightness

Reset 100 0

Hold Settings

100% Do_all processing finished pixel x:11 y:150 stacksize: 151.0 R: 0.0 G: 176.3 B: 0.0

Histogramm ...

Registax processing AVI: SunHalp...avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:94MB (HD:864136576)

Process Do All Save image Realign_with Processed Reset

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- High Pass

Wavelet filter: Default Gaussian

Waveletscheme: Dyadic (2^n) Linear

Initial Layer: 1 Step Increment: 0

Layer Preview

- 1:1 0.15 1.0
- 2:1 0.10 100
- 3:1 0.10 79.9
- 4:1 0.10 50.5
- 5:1 0.10 1.0
- 6:1 0.10 1.0

Load Scheme Save Scheme

Gradient threshold 500

Graphs

- Histogram
- Gamma
- Resize Image
- RGB Balance
- Wavelet Filter
- View Stacksize
- View Gradient

Clipboard

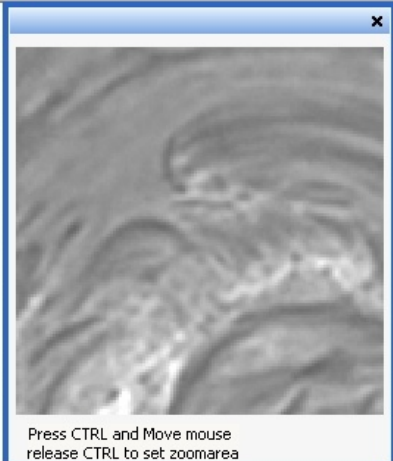
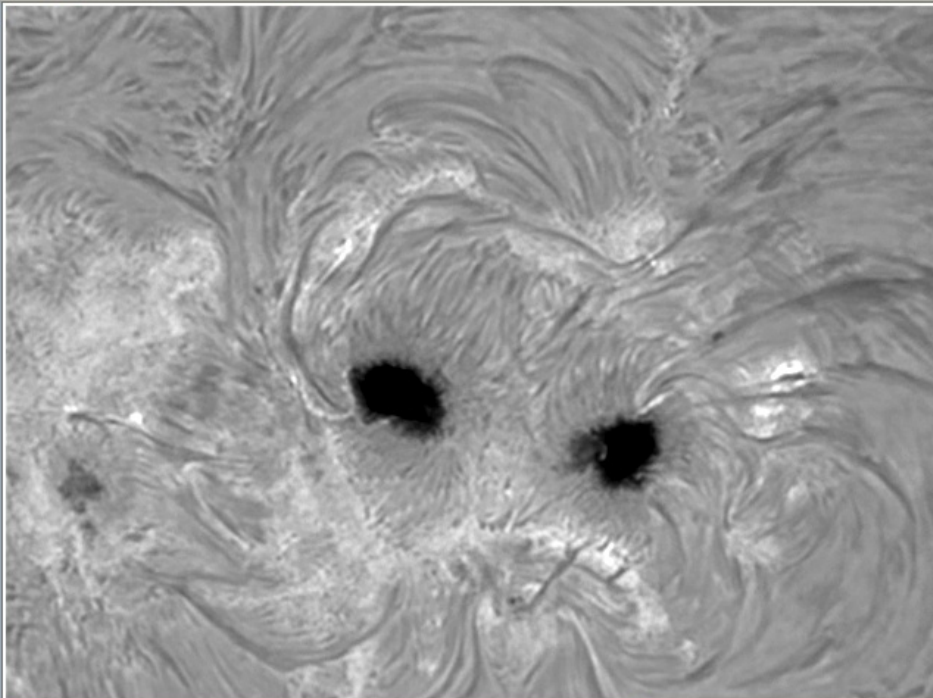
- Copy to Clipboard
- Difference with Clipboard
- Toggle: Current Image Clipboard Image
- Clipboardfront

Contrast/Brightness

Contrast: 100 Brightness: 0

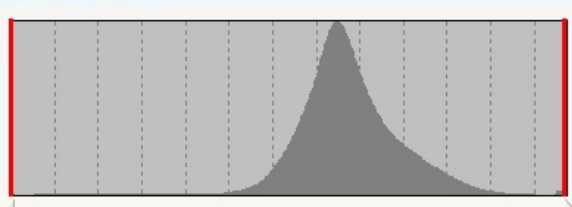
Reset

Hold Settings



Press CTRL and Move mouse release CTRL to set zoomarea

Histogram_Panel



lo: 0 hi: 255

Smoothing value: 5

Stretch Reset

Log-based graph

100% Do_all processing finished pixel x:261 y:105 stacksize: 202.5 R: 0.0 G: 152.4 B: 0.0

Gamma ...

Registax processing AVI: SunHalpna.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.90 31-10-2008 10:13 Memory Used:94MB (HD:864136576)

Process Do All Save image Realign_with Processed Reset

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- High Pass

Wavelet filter: Default Gaussian

Waveletscheme: Dyadic (2^n) Linear

Initial Layer: 1 Step Increment: 0

Layer: 1:1 | 0.15 | 1.0

2:1 | 0.10 | 100

3:1 | 0.10 | 79.9

4:1 | 0.10 | 50.5

5:1 | 0.10 | 1.0

6:1 | 0.10 | 1.0

Load Scheme Save Scheme

Gradient threshold: 500

Graphs

Histogram Gamma

Resize Image RGB Balance

Wavelet Filter View Stacksize

View Gradient

Clipboard

Copy to Clipboard Difference with Clipboard

Toggle: Current Image Clipboard Image

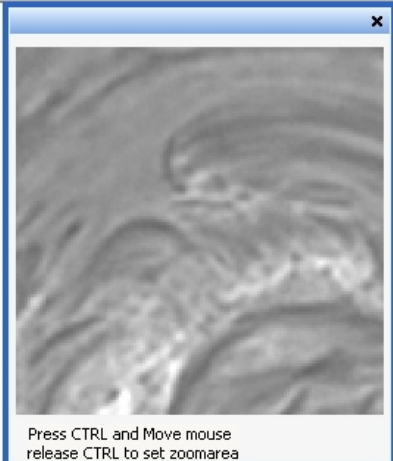
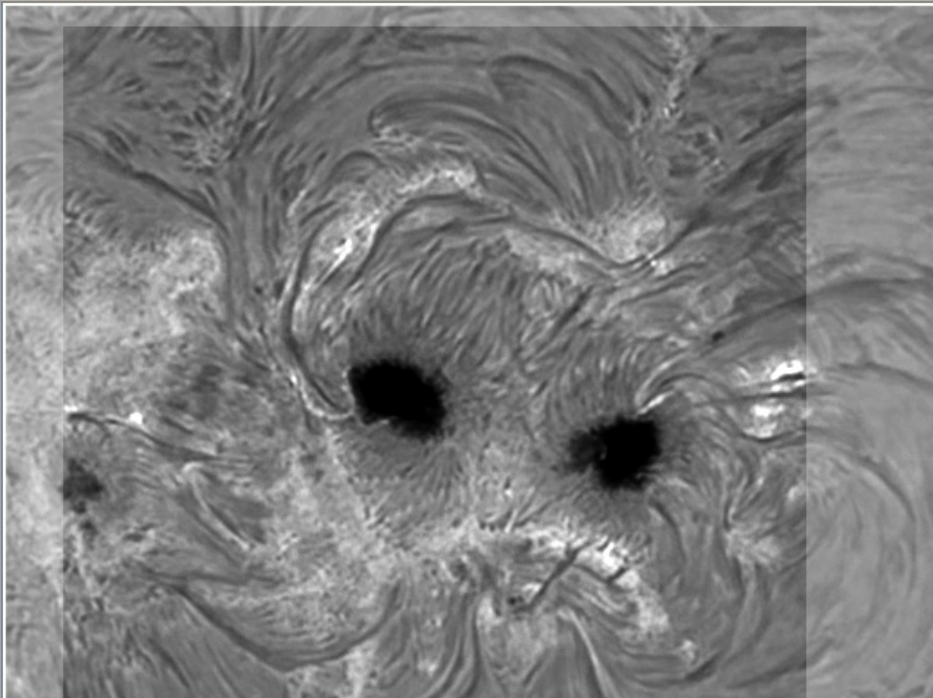
Clipboardfront

Contrast/Brightness

Contrast: 100 Brightness: 0

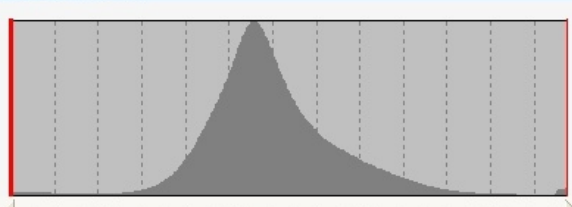
Reset

Hold Settings



Press CTRL and Move mouse release CTRL to set zoomarea

Histogram_Panel



lo: 0 hi: 255

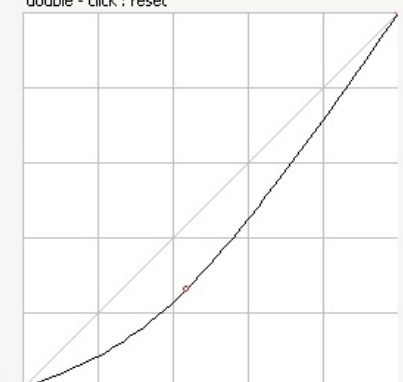
Smoothing value: 5

Stretch Reset

Log-based graph

Gamma_Panel

right-click : insert a point ctrl-left-click : delete a point double - click : reset



Linear

Load Save Reset

Gamma (overrules graph): 1.00

100% Do_all processing finished | pixel x:347 y:471 stacksize: 151.0 R: 0.0 G: 156.9 B: 0.0

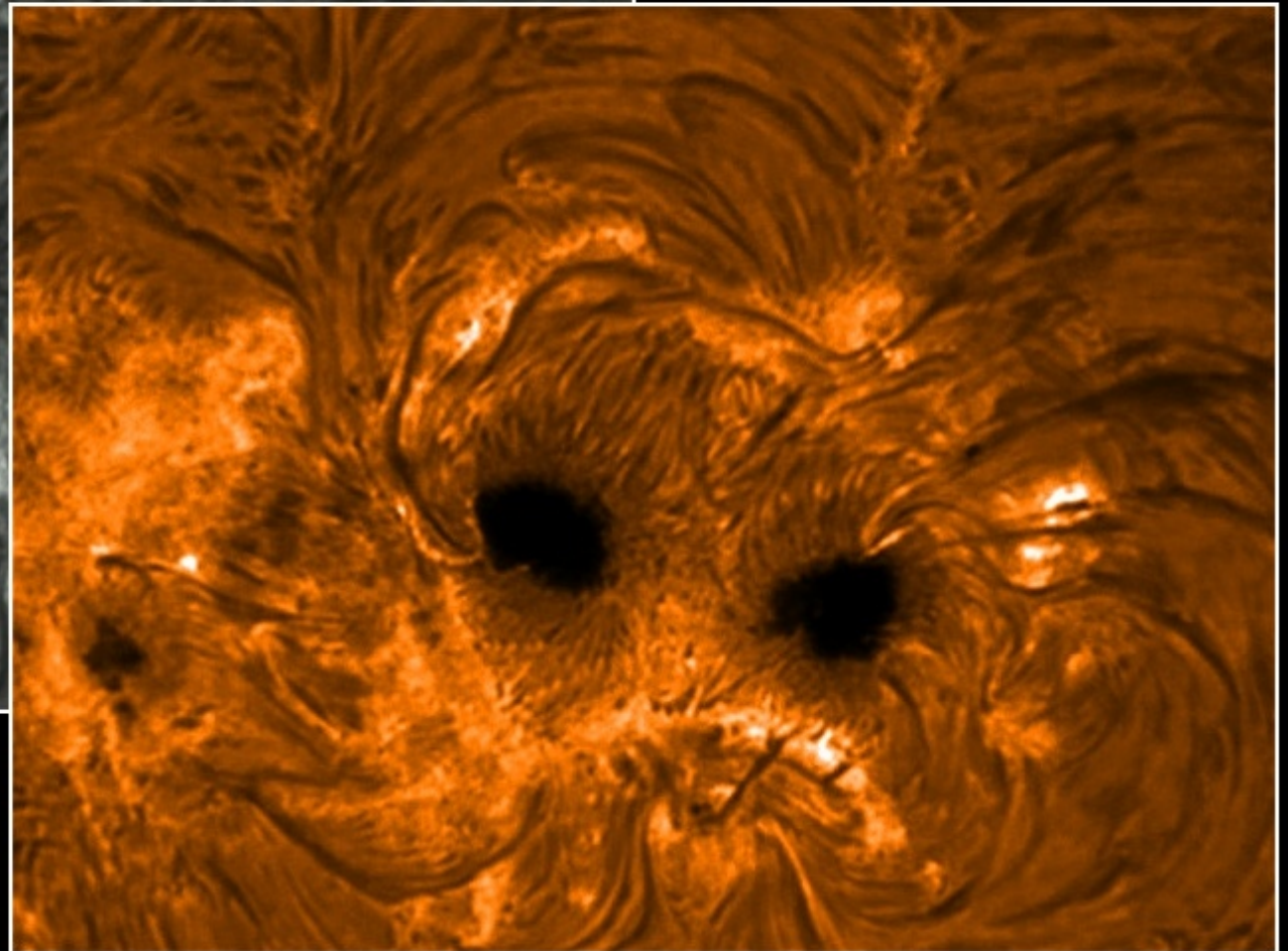
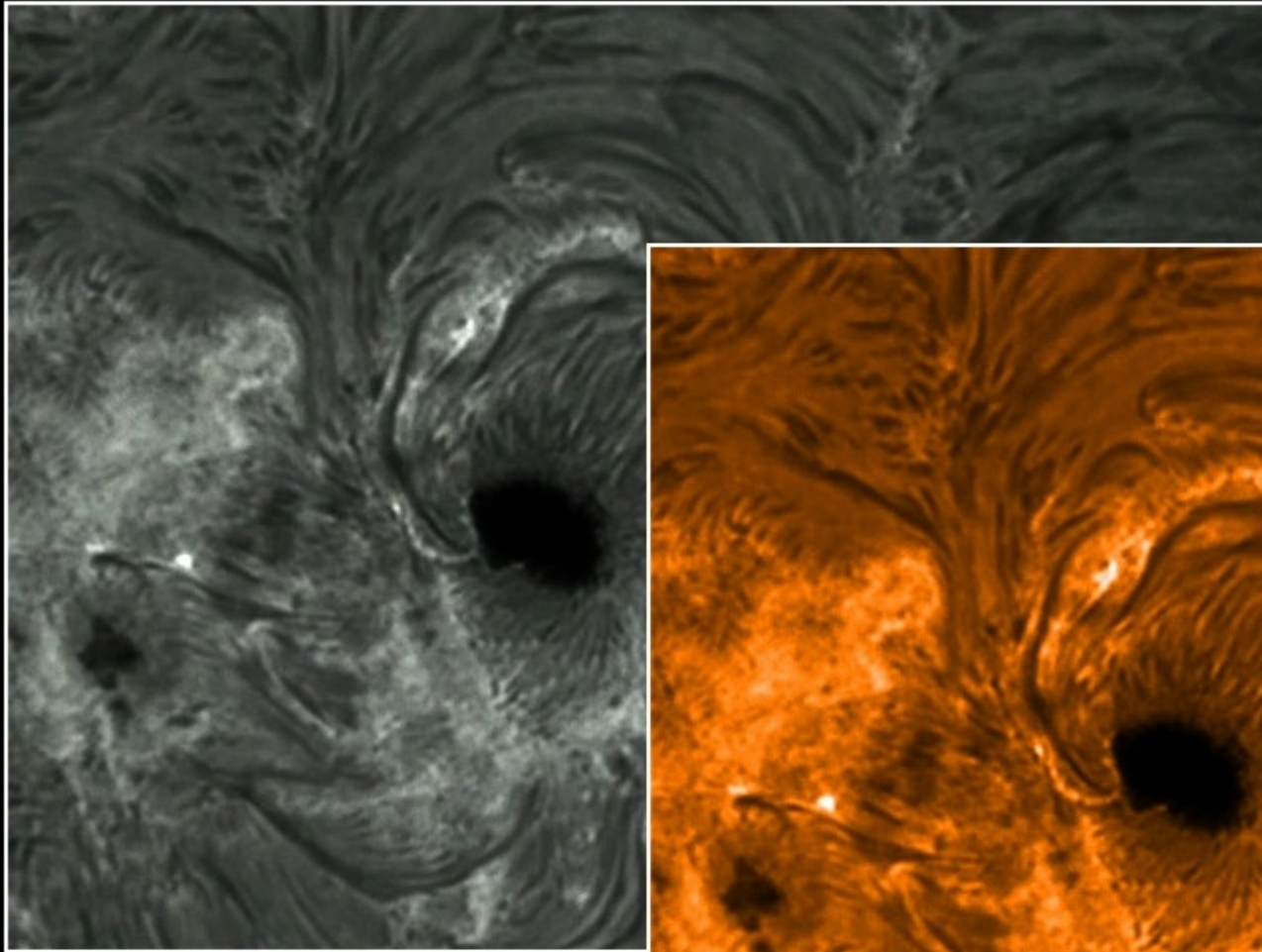
Informations saved in name of file...

The screenshot displays the Registax software interface for processing an AVI file named "SunAlpha.avi". The main window shows a solar image with a sunspot. Several panels are open:

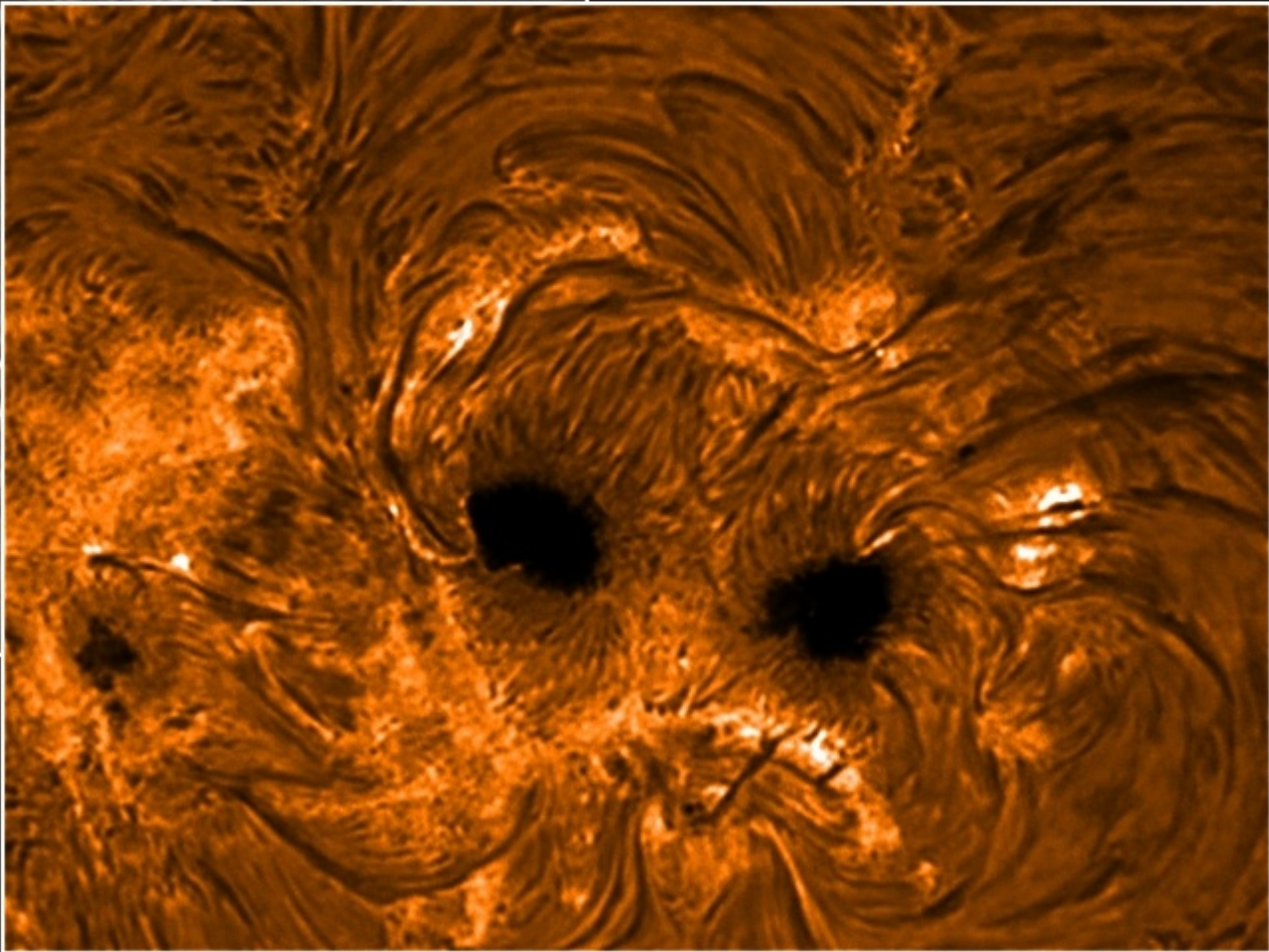
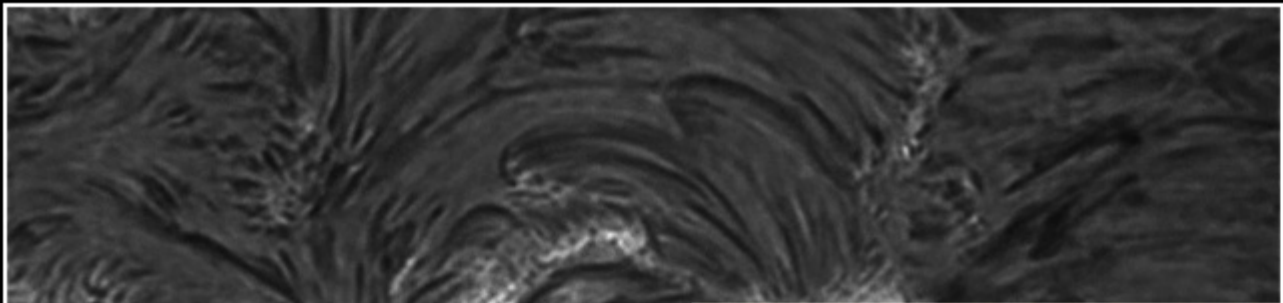
- Wavelet settings:** Includes options for "Automatic", "Hold Wavelet Setting", "Show Processing Area", "Show Alignment Points", "View Full Image", "Show Zoomed", "High Pass", "Wavelet filter" (Default, Gaussian), "Waveletscheme" (Dyadic (2^n), Linear), "Initial Layer" (1), "Step Increment" (0), "Layer" (1:1, 2:1, 3:1, 4:1, 5:1, 6:1), and "Gradient threshold" (500).
- ImageInfo_Panel:** Shows "Objectname: SunAlpha" and "Date/Time: 20061111_000308". It has checkboxes for "Show Waveletscheme", "Show Waveletvalues", "Show Stacksize", "Show Contrast/Brightness", "Show Gamma", "Use Imageinfo", and "Stamp below image".
- Histogram_Panel:** Displays a histogram with "lo: 0", "hi: 255", and "Smoothing value: 5". It includes "Stretch" and "Reset" buttons and a "Log-based graph" checkbox.
- Gamma_Panel:** Features a graph for gamma correction with instructions: "right-click: insert a point", "ctrl-left-click: delete a point", "double-click: reset". It has "Load", "Save", "Reset", and "Gamma (overrules graph)" controls.
- Clipboard:** Includes "Copy to Clipboard", "Difference with Clipboard", and "Clipboardfront" buttons.
- Contrast/Brightness:** Has sliders for "Contrast" (100) and "Brightness" (0), with "Reset" and "Hold Settings" options.

The status bar at the bottom shows "100%" zoom and "pixel x:383 y:1 stacksize: 131.6 R: 0.0 G: 139.0 B: 0.0".

This was with 1 AP...



This is with Matrix use !

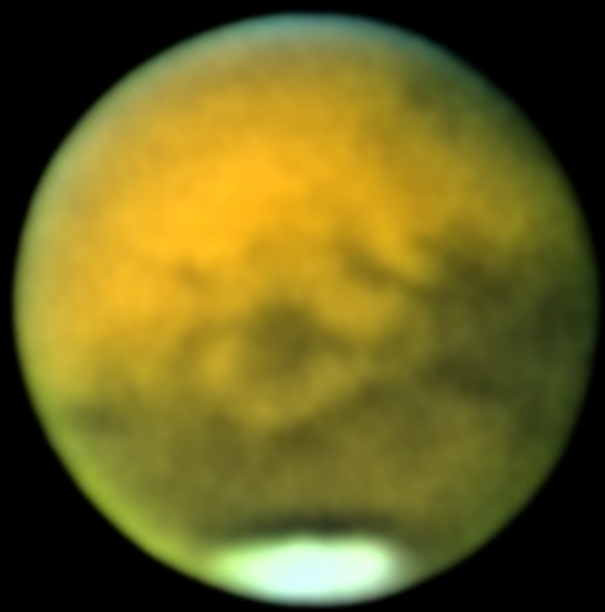
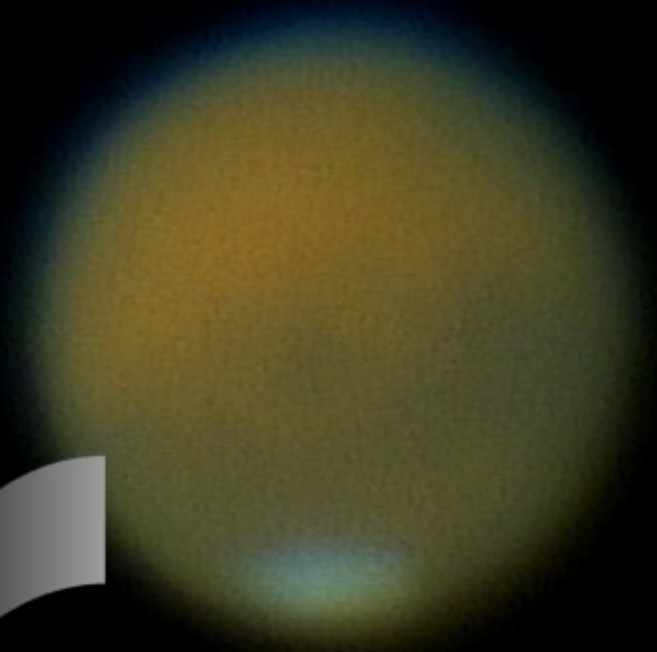


Advanced processing 2

Mars in color (2003)



Mars



AVI loaded, quality, alignment, LRGB ...

Registax processing AVI: E:\RCE-2008\AVI à Traiter Live\Mars.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:71MB (HD:864136576)

Align Limit Colour Automatic processing FFT Graph Show Frame List Haltwindow Vista LargeAvi
 LRGB View full image Registration Graph Show Zoomed Image Calculate StackSlice Check for dropped frames

Alignment options

Align settings

Alignmentbox size
 32 128 512
 64 256

Alignment Method
 Default None
 Multi

Region of interest

Manual Alignment

Processing area

Quality

Gradient2

Lowest quality 70

Use Ninox

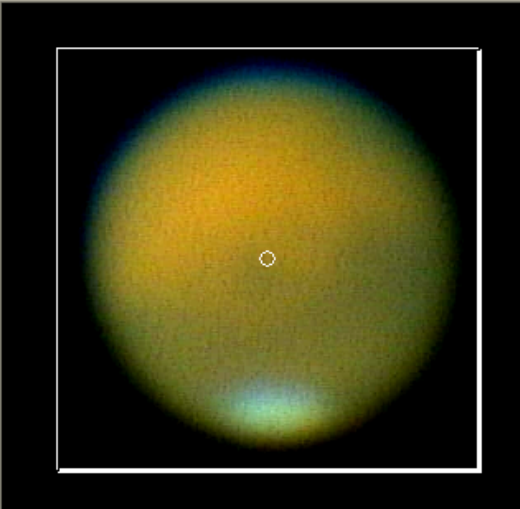
Tracking Settings

Track object
 Predict track
 Misalign warning
 Ignore misaligned frames

Automatic processing

Align to Optimize
 Limit to Optimize

Language setting



Preview negative Preview gamma

Frame (1): 1/300 Goto Frame 1 Auto limit

0% 163-156 Setup new Image datasetion

Limit 95%

Real Time Registax processing AVI: Mars.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:71MB (HD:864136576)

Align Limit Colour Automatic processing FFT Graph Show Frame List Haltwindow Vista LargeAvi
 LRGB View full image Registration Graph Show Zoomed Image Calculate StackSlice Check for dropped frames

Alignment options

Align settings

Alignmentbox size
 32 128 512
 64 256

Alignment Method
 Default None
 Multi

Region of interest

Manual Alignment

Processing area

Quality

Gradient2

Lowest quality

Use Ninox

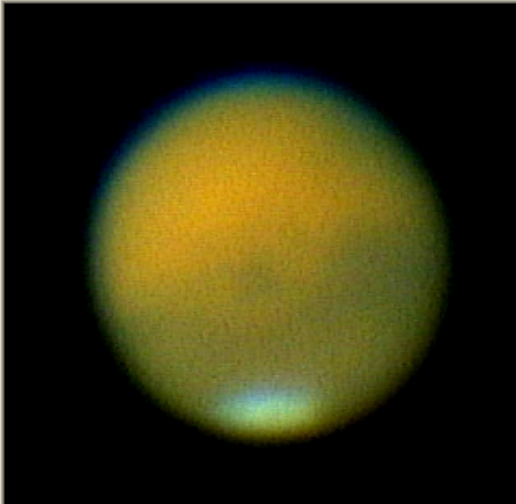
Tracking Settings

Track object
 Predict track
 Misalign warning
 Ignore misaligned frames

Automatic processing

Align to Optimize
 Limit to Optimize

Language setting



Preview negative Preview gamma

Frame (190) : (stacksize 128 / 300) [Low quality 95.0 %] Goto Frame Auto limit

100% 1-133 Alignment processing

Create reference image...

Registax processing AVI: Mars.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:71MB (HD:864136576)

Optimize & Stack Optimize

Optimizer mode
 V4 style V5 style

Optimizer setting

Optimizer Limits
Search area 1 pixels
Optimize until less than 1% improvement

Graphs
 Difference
 Movements

Options
 Single run optimizer
 Reset alignmentpoints

Reference-Frame

Create a Reference frame
Frames to stack
Create Reference 24

Resample/Drizzle

Style: None Resampling Drizzling
Method: Bell
Factor: 1.0

Reference Current

Processing 188

Average pixel difference :8.253 max :11.890

Movements

Xmove
Ymove

Quality Difference

67% 2Processing frame :269 Optimizing 25 frames

Wavelet on reference image & full noise suppression...

Registax processing AVI: Mars.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:71MB (HD:864136576)

Process Do All **Save image** Realign_with Processed Reset Continue

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- Show Compare

Wavelet filter

Default Gaussian

Waveletscheme

Dyadic (2ⁿ) Linear

Initial Layer Step Increment

Layer 1:1 0.80 1.0

2:2 0.10 100.

3:4 0.10 100.

4:8 0.10 1.0

5:1 0.10 1.0

6:3 0.10 1.0

Load Scheme Save Scheme

Gradient threshold 500

Graphs

Histogram Gamma

Resize Image RGB Balance

Wavelet Filter View Stacksize

Clipboard

Copy to Clipboard Difference with Clipboard

Toggle

Current Image

Clipboard Image

Clipboardfront

Contrast/Brightness

Reset

Contrast 100 Brightness 0

Hold Settings

Puis click sur Continue

100% Calculating wavelets done Stack size (n=25) - (316x308)

Optimization ...

Real Time Stack Registax processing AVI: Mars.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:71MB (HD:864136576)

Optimize & Stack Optimize Optimizer mode
 V4 style V5 style

Optimizer setting

Optimizer Limits
Search area 1 pixels
Optimize until 1% improvement less than

Graphs
 Difference
 Movements

Options
 Single run optimizer
 Reset alignmentpoints

Reference-Frame

Create a Reference frame
Frames to stack 24
Create Reference

Resample/Drizzle

Style: None Resampling Drizzling
Method: Bell
Factor: 2.0

Reference Current

Processing 297

Initial optimizing run

Movements

x sum:153
y sum:103

24% 2Processing frame :279 Optimizing 128 frames (% improvement :2)

Stack Sigmaclip...

Registax processing AVI: Mars.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:71MB (HD:864136576)

Stack Save image Colour LRGB Stack Mode Standard Sigmaclip

Stacking Options

Options

- Expand to maximum imagesize
- Stretch histogram after stacking
- Normalize intensity over frames
- Show Stacklist
- Show Stackgraph

Do not stack pixels at the framee

Multi-point stacking options

- Fast method
- Use feather of pixels
- Show alignment sections
- OptimalDerotate

Stackgraphs_Panel

Difference Cutoff (green line) (max =250.739) (% 100)

Quality Cutoff (red line) (% 100) limit to maximum frames:

99% | 2Processing frame :225 | Optimizer(n=127) : Last improvement :91%

Wv page, reset ...

Registax processing AVI: Mars.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:71MB (HD:864136576)

Process Do All **Save image** Realign_with Processed Reset

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- Show Compare

Wavelet filter: Default Gaussian

Waveletscheme: Dyadic (2^n) Linear

Initial Layer: 1 Step Increment: 0

Layer Preview

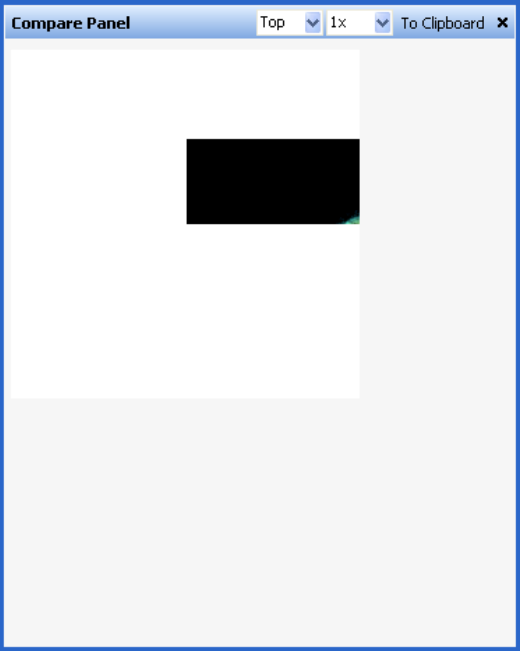
- 1: 1 0.1 1.0
- 2: 2 0.10 100.
- 3: 4 0.10 100.
- 4: 8 0.10 1.0
- 5: 1 0.10 1.0
- 6: 8 0.10 1.0

Load Scheme Save Scheme

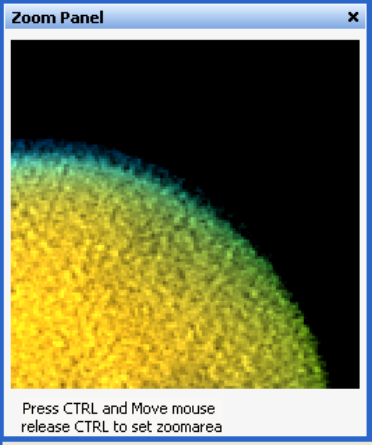
Gradient threshold 500

Compare Panel

Top 1x To Clipboard



Zoom Panel



Press CTRL and Move mouse
release CTRL to set zoomarea

Graphs

- Histogram
- Gamma
- Resize Image
- RGB Balance
- Wavelet Filter
- View Stacksize
- View Gradient

Clipboard

- Copy to Clipboard
- Difference with Clipboard
- Toggle: Current Image Clipboard Image
- Clipboardfront

Contrast/Brightness

Reset

Contrast: 100 Brightness: 0

Hold Settings

100% layer setting changed pixel x:211 y:9 stacksize: 114.2 R: 0.0 G: 0.2 B: 0.0

Positioning tools...

Registax processing AVI: Mars.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:71MB (HD:864136576)

Process Do All **Save image** Realign_with Processed Reset

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- Show Compare

Wavelet filter: Default Gaussian

Waveletscheme: Dyadic (2^n) Linear

Initial Layer: 1 Step Increment: 0

Layer: 1:1 0.10 1.0 Preview

2:2 0.10 1.0

3:4 0.10 1.0

4:8 0.10 1.0

5:1 0.10 1.0


6:3 0.10 1.0

Load Scheme Save Scheme

Gradient threshold 500

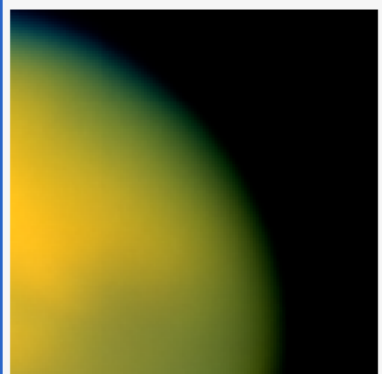
Compare Panel

Top 1x To Clipboard



Zoom Panel

Press CTRL and Move mouse release CTRL to set zoomarea



RGB Alignment

Reset

RGB Align Area

- Show Area
- Move Area
- Define Area

X position Y position

Red 0 0

Blue 0 0

Colour Channel

- Show Red
- Show Green
- Show Blue

Manual

Up Up

Lt Rt Lt Rt

Dn Dn

Red-channel Blue-Channel

Estimate

LRGB-Mixer

L= R+G+B mixer

R

G

B

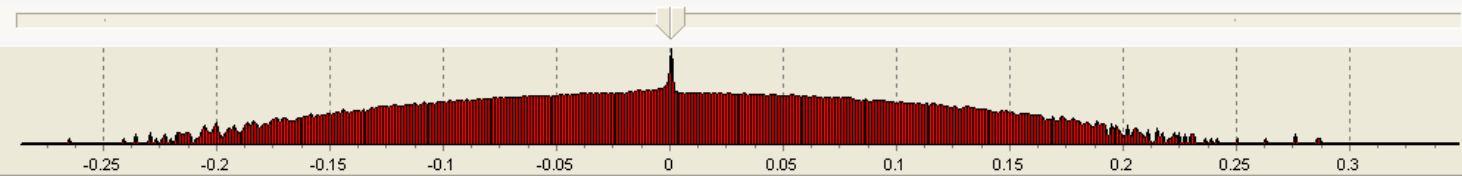
Layer 1 Filter

Reset

Lowest value Highest value

-0.2862606346607 0.348182022571564

0.00 0.00 Soft



100% Calculating wavelets done

Comparo, Zoom, noise filters ...

Registax processing AVI: Mars.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:71MB (HD:864136576)

Process Do All Save image Realign_with Processed Reset

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- Show Compare

Wavelet filter: Default Gaussian

Waveletscheme: Dyadic (2ⁿ) Linear

Initial Layer: 1 Step Increment: 0

Layer: 1:1 0.55 70.6

2:2 0.10 100.

3:4 0.10 100.

4:8 0.10 1.0

5:1 0.10 1.0

6:3 0.10 1.0

Load Scheme Save Scheme

Gradient threshold 500

RGB Alignment

Reset

RGB Align Area

- Show Area
- Move Area
- Define Area

X position Y position

Red 0 0

Blue 0 0

Colour Channel

- Show Red
- Show Green
- Show Blue

Manual

Up Lt Rt Up Lt Rt

Dn Dn

Red-channel Blue-Channel

Estimate

LRGB-Mixer

LR= R+G+B mixer

R

G

B

Layer 1 Filter

Reset

Lowest value Highest value

-0.28626063466070.348182022571564

-0.01 0.01 Soft

100% layer setting changed pixel x:12 y:307 stacksize: 71.8 R: 0.0 G: 0.0 B: 0.0

Complex but working well !

Registax processing AVI: Mars.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:73MB (HD:864136576)

Process Do All Save image Realign_with Processed Reset

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- Show Compare

Wavelet filter: Default Gaussian

Waveletscheme: Dyadic (2^n) Linear

Initial Layer: 1 Step Increment: 0

Layer: 1: 1.0 2: 0.60 3: 0.10 4: 0.10 5: 0.10 6: 0.10

Load Scheme Save Scheme

Gradient threshold: 500

RGB Alignment

Reset

RGB Align Area

- Show Area
- Move Area
- Define Area

X position Y position

Red: -1 2
Blue: 4 -6

Colour Channel

- Show Red
- Show Green
- Show Blue

Manual

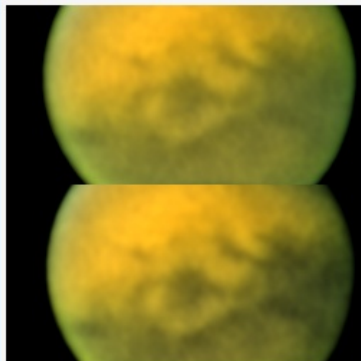
Up Lt Rt Up Lt Rt
Dn Dn

Red-channel Blue-Channel

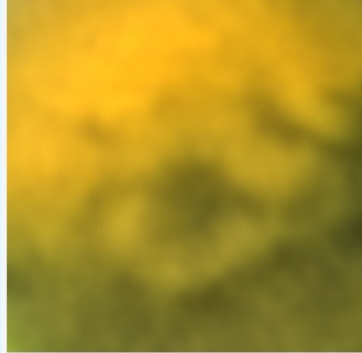
Estimate

Compare ...

Bottom 1x To Clipboard



Zoom Panel

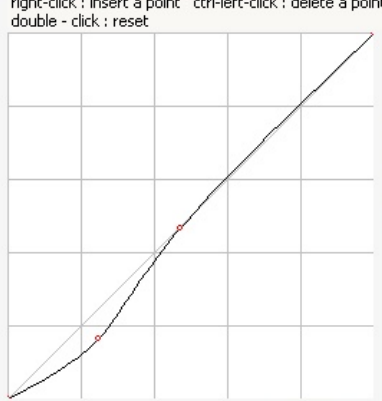


Press CTRL and Move mouse
release CTRL to set zoomarea

Gamma_Panel

Load Save Reset

right-click : insert a point ctrl-left-click : delete a point
double - click : reset



Linear Gamma (overrules graph) 1.00

LRGB-Mixer

Reset

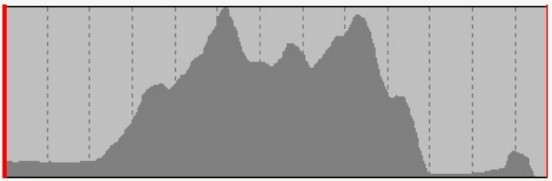
L= R+G+B mixer

Contrast/Brightness

Contrast: 86 Brightness: 0

Hold Settings

Histogram_Panel



21 255

lo: 21 hi: 255

Log-based graph Smoothing value: 5

Clipboard

Copy to Clipboard Difference with Clipboard

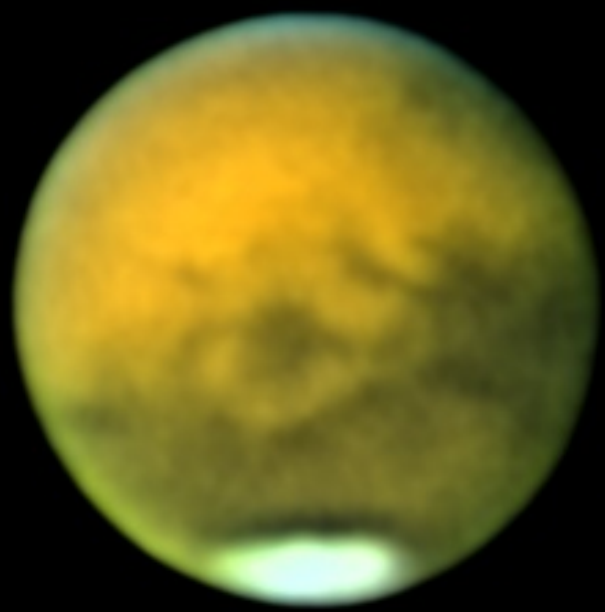
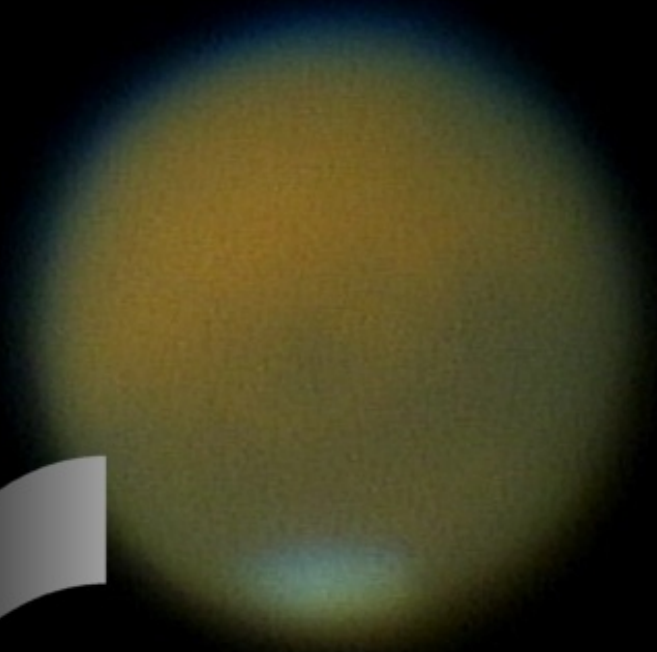
Toggle

Current Image

Reset

100% Calculating wavelets done pixel x:146 y:305 stacksize: 95.1 R: 0.0 G: 0.4 B: 0.0

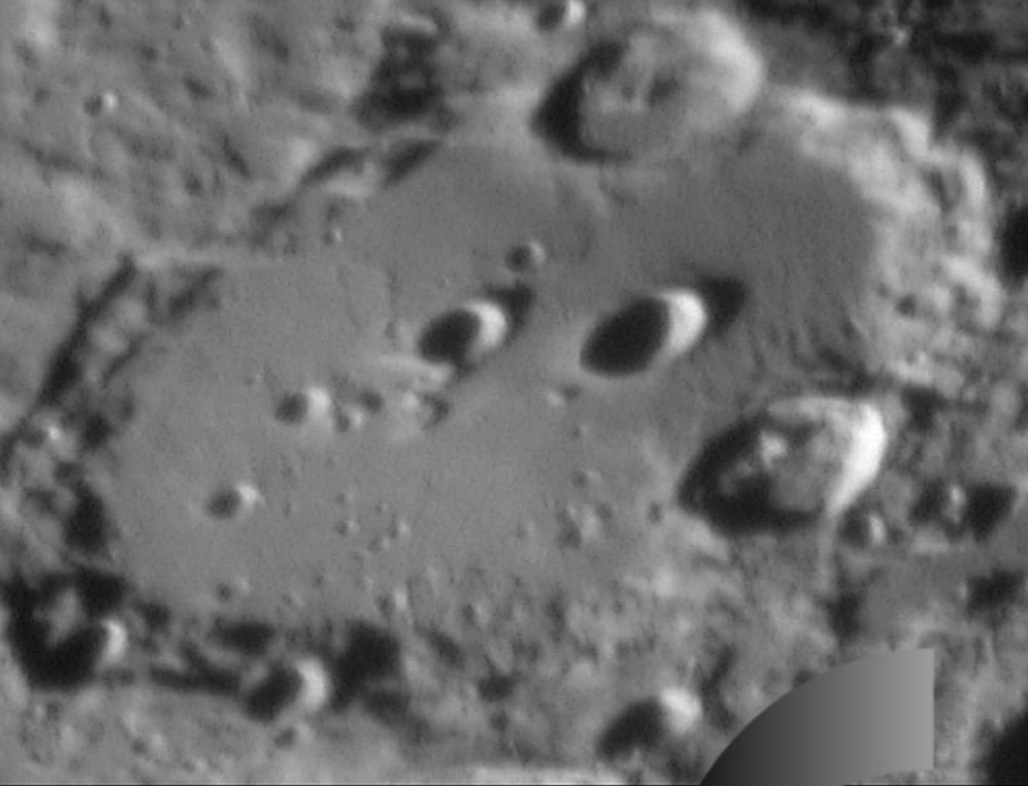
Mars



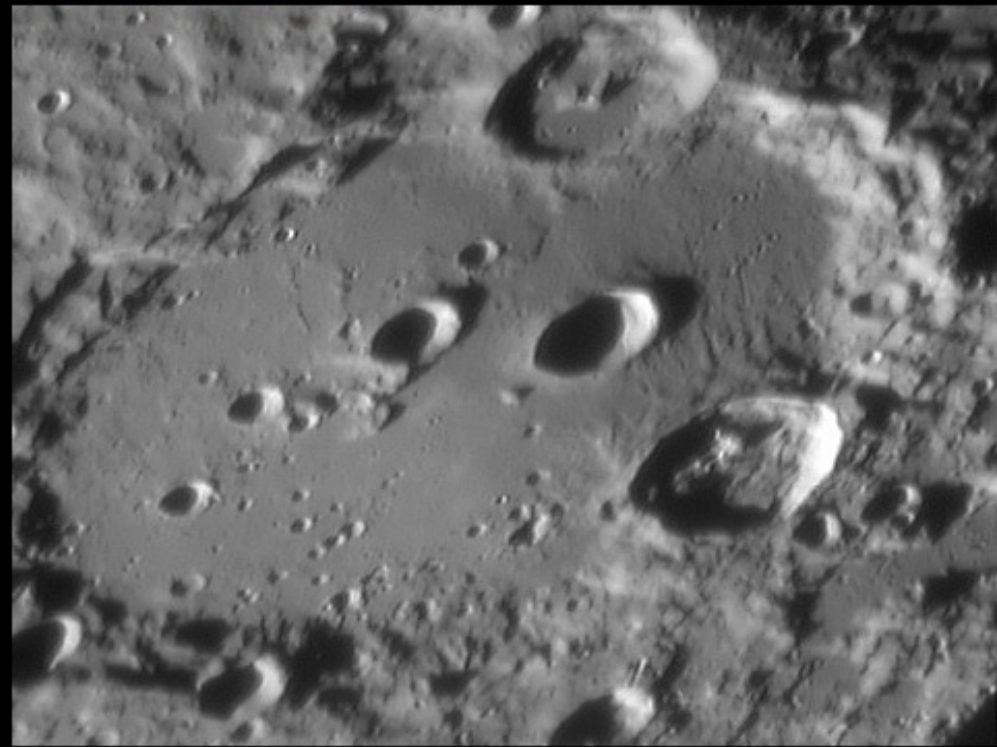
Advanced processing (3)

Clavius B&W hires





Lune : Clavius



Quality, FFT, max moves & AP estimation / saving ...

Registax processing AVI: E:\RCE-2008\AVI à Traiter Live\clavius50Best.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:81MB (HD:864136576)

Align Limit Colour Automatic processing FFT Graph Show Frame List Haltwindow Vista LargeAvi Check for dropped frames
 LRGB View full image Registration Graph Show Zoomed Image Calculate StackSlice

Alignment options

Align settings

Alignmentbox size
 32 128 512
 64 256

Alignment Method
 Default None
 Multi

Region of interest

Manual Alignment
 Userdefined Alignment Box
 De - Rotate

Processing area

Quality

Gradient2

Lowest quality

Use Ninox

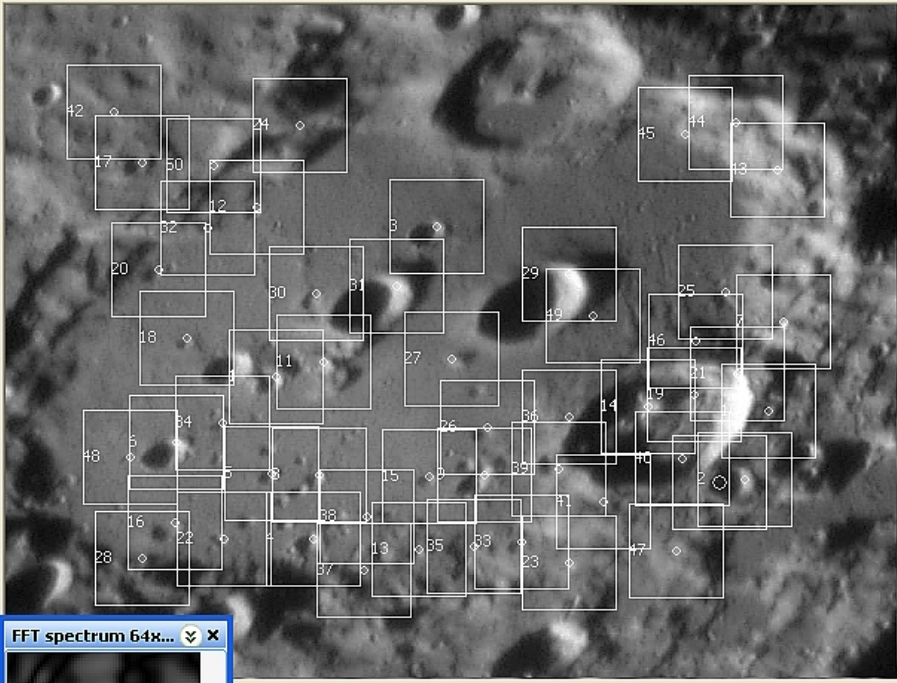
Tracking Settings

Track object
 Predict track
 Misalign warning
 Ignore misaligned frames

Automatic processing

Align to Optimize
 Limit to Optimize
 Optimize to Stack

Language setting



Multi-alignment_panel

Multi A-method
 Simple Multi-Quantity

Show Alignmentzones

Maximum drift (pix)

Estimate Alignmentpoints Absolute Relative

Threshold Radius

Minimum distance between points (pix)

Create Matrix

Matrix FFTsize

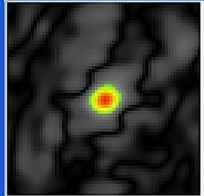
Free space to edge

Save Points Load Points

Alignmentpoints: 50

	X	Y	FFT
1	183	250	64
2	498	319	64
3	291	149	64
4	208	359	64
5	180	315	64
6	116	294	64
7	524	213	64
8	212	316	64
9	323	316	64
10	514	273	64
11	215	240	64
12	170	136	64
13	279	366	64
14	433	270	64
15	286	317	64
16	115	348	64

FFT spectrum 64x...



Manual

FFTfilter

Recalc FFT

Preview negative Preview gamma

Frame (1) : (stacksize 1 / 49) [Low quality 0.0 %] Goto Frame Auto limit

0% 588-409 | Setup new Image datasection

Alignment ...

Registax processing AVI: clavivus50Best.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:81MB (HD:864136576)

Align Limit Colour Automatic processing FFT Graph Show Frame List Haltwindow Vista LargeAvi
 LRGB View full image Registration Graph Show Zoomed Image Calculate StackSlice Check for dropped frames

Alignment options

Align settings

Alignmentbox size
 32 128 512
 64 256

Alignment Method
 Default None
 Multi

Region of interest

Manual Alignment
 Userdefined Alignment Box
 De - Rotate

Processing area

Quality

Gradient2

Lowest quality 95
 Use Ninox

Tracking Settings


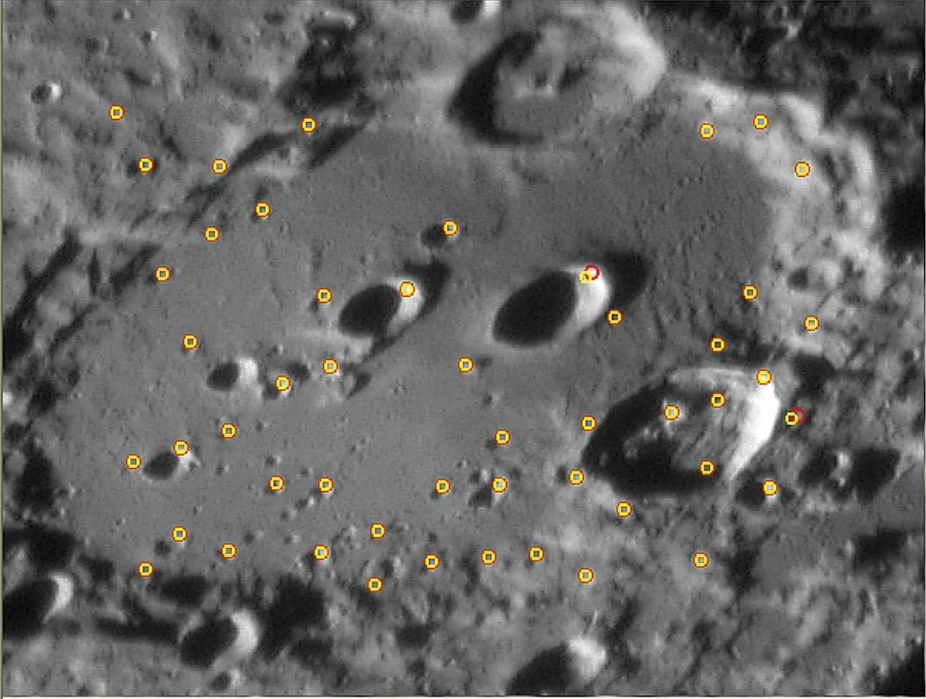
Track object
 Predict track
 Misalign warning
 Ignore misaligned frames

Automatic processing

Align to Optimize
 Limit to Optimize
 Optimize to Stack
 Optimize to Wavelet

Language setting

Master alignmentpoint



Preview negative Preview gamma Frame (1) : (stacksize 1 / 49) [Low quality 0.0 %] Goto Frame 1 Auto limit

31% 1Processing Frame:15 Fps 1.321 Alignment processing

Profile ...

Registax processing AVI: clavius50Best.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:85MB (HD:864136576)

Process Do All **Save image** Realign_with Processed Reset

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- Show Compare

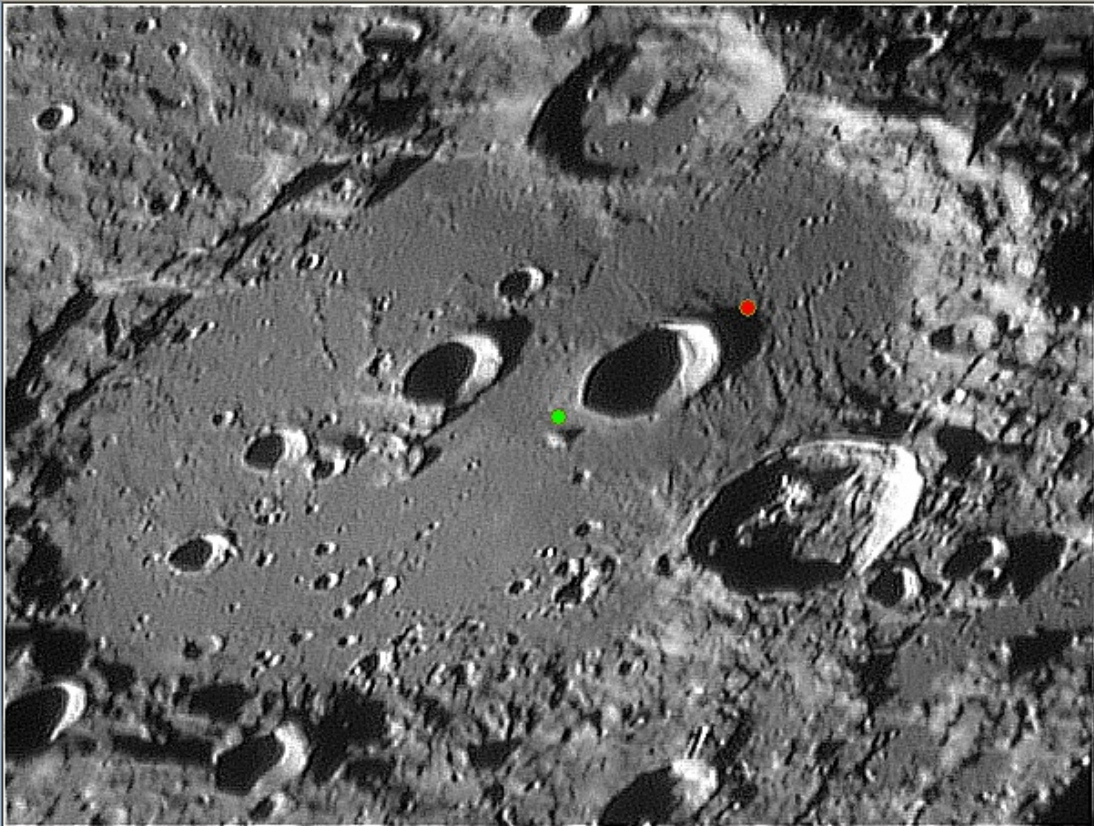
Wavelet filter
 Default Gaussian

Waveletscheme
 Dyadic (2^n) Linear

Initial Layer 1 Step Increment 0

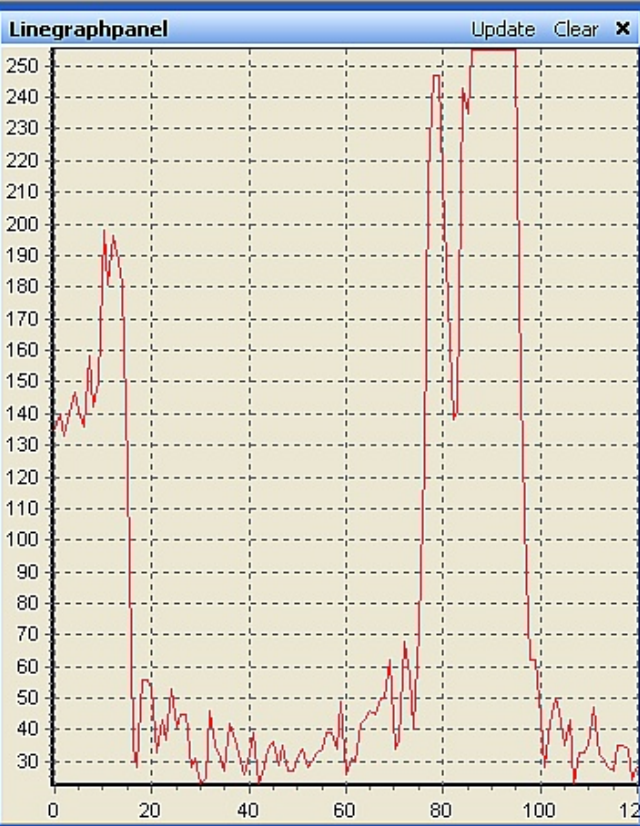
Layer Preview

Layer	Ratio	Value
<input type="checkbox"/>	1:1	1.0
<input checked="" type="checkbox"/>	2:1	80.6
<input checked="" type="checkbox"/>	3:1	60.5
<input checked="" type="checkbox"/>	4:1	1.0
<input checked="" type="checkbox"/>	5:1	1.0



Linegraphpanel

Update Clear X



Noise reduction & use of « Comparo »...

Registax processing AVI: clavivus50Best.avi

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:85MB (HD:864136576)

Process Do All Save image Realign_with Processed Reset

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- Show Compare

Wavelet filter
 Default Gaussian

Waveletscheme
 Dyadic (2^n) Linear

Initial Layer 1 Step Increment 0

Layer Preview

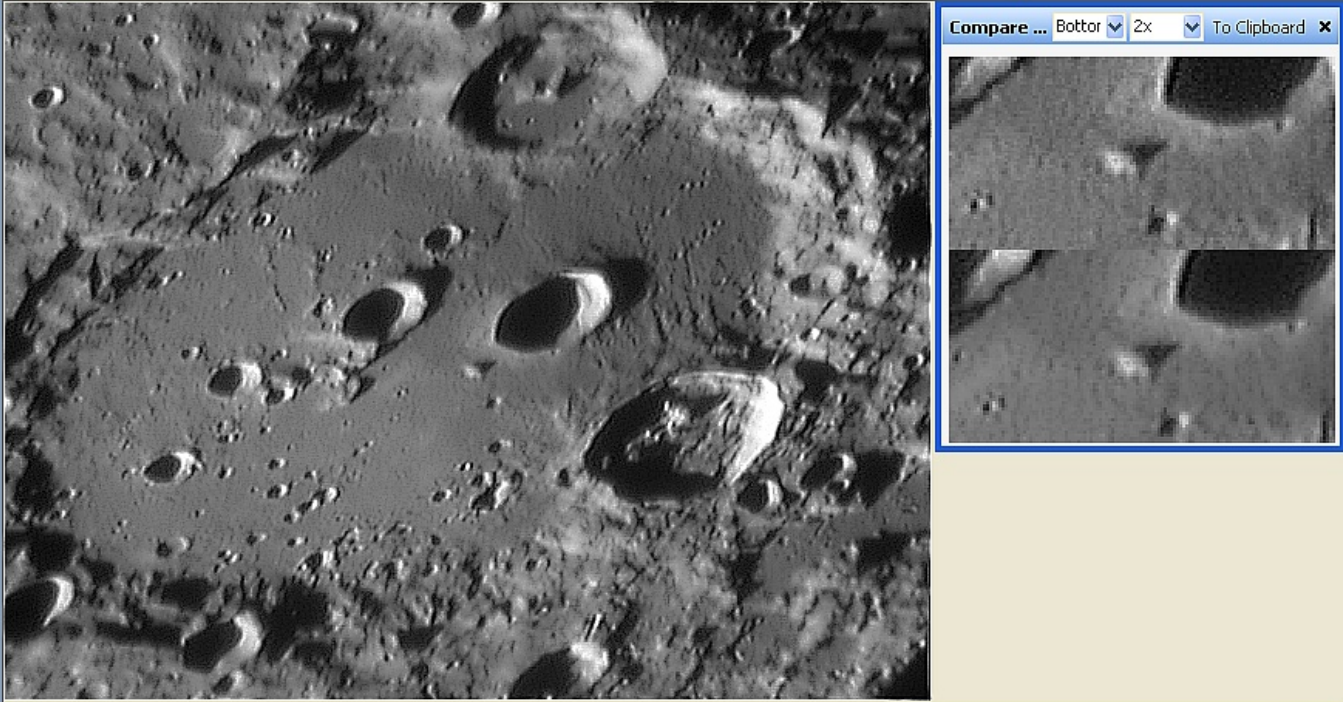
- 1:1 0.10 49.8
- 2:1 0.10 30.4
- 3:1 0.10 11.1
- 4:1 0.10 1.0
- 5:1 0.10 1.0
- 6:1 0.10 1.0

Load Scheme Save Scheme

Gradient threshold 500

Compare ...

Bottom 2x To Clipboard

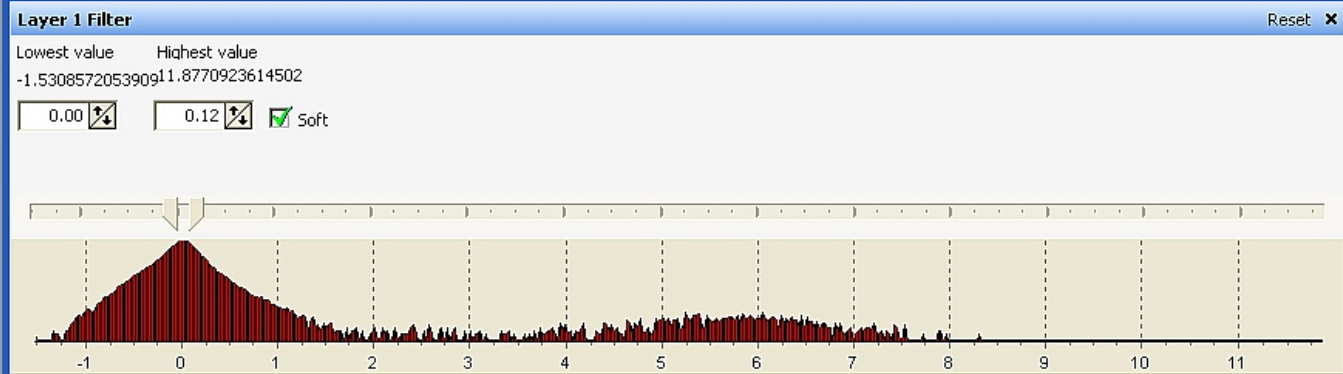


Layer 1 Filter

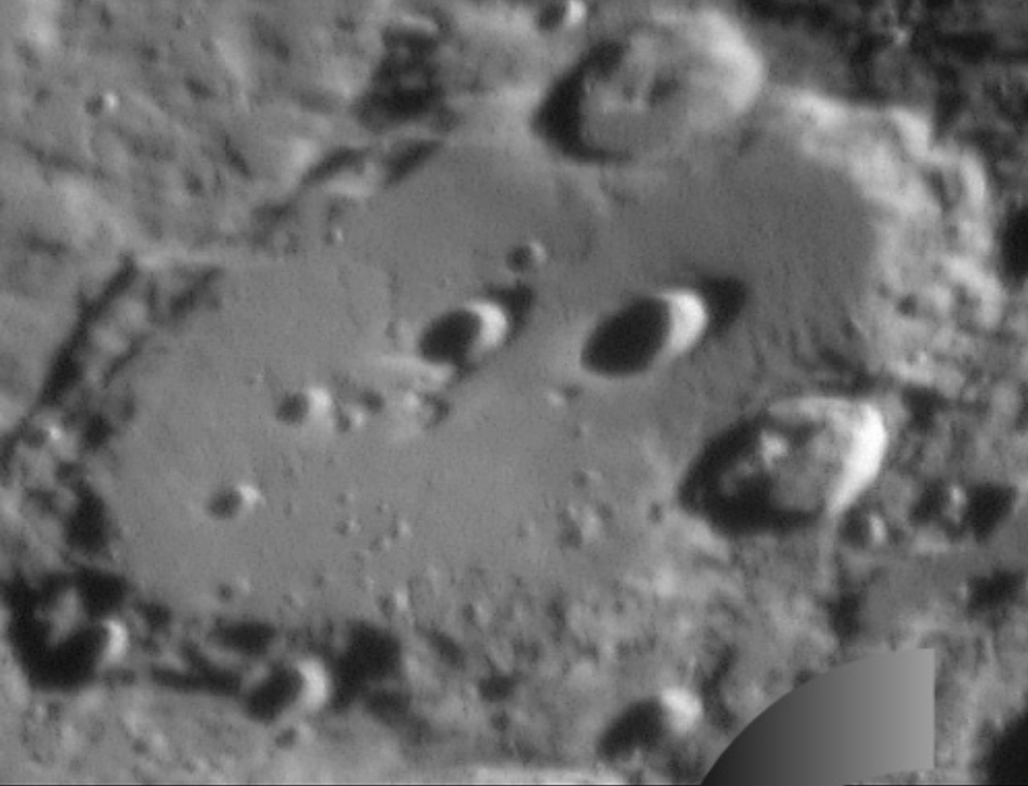
Reset

Lowest value Highest value
-1.530857205390911.8770923614502

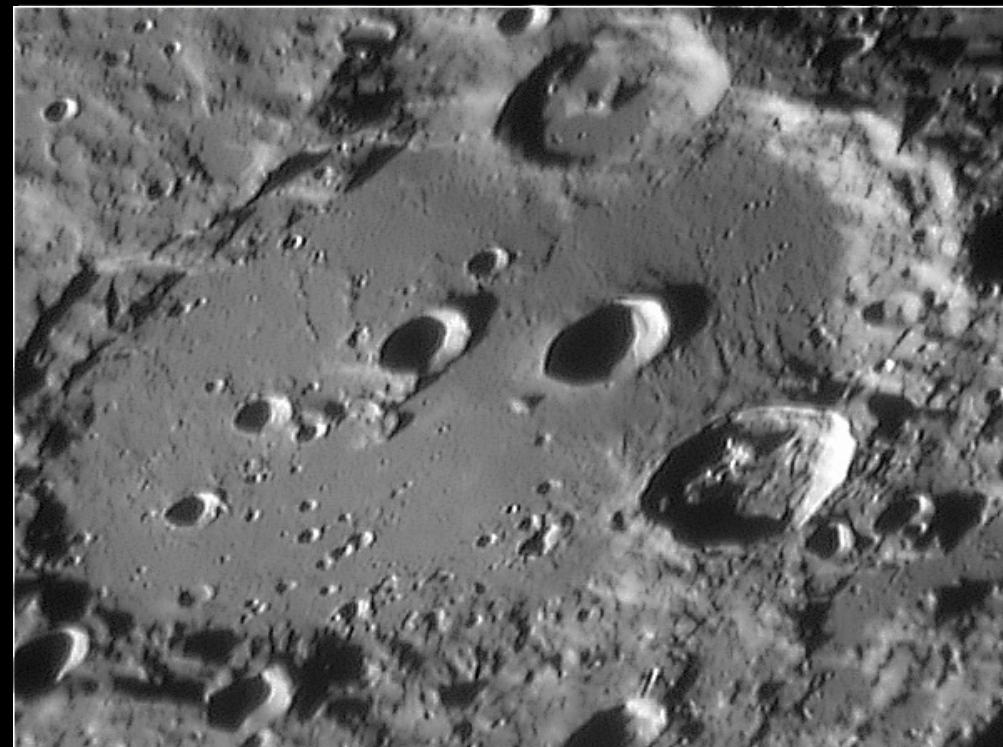
0.00 0.12 Soft



100% Do all processing finished pixel x:2 y:112 stacksize: 44.0 R: 0.0 G: 151.8 B: 0.0



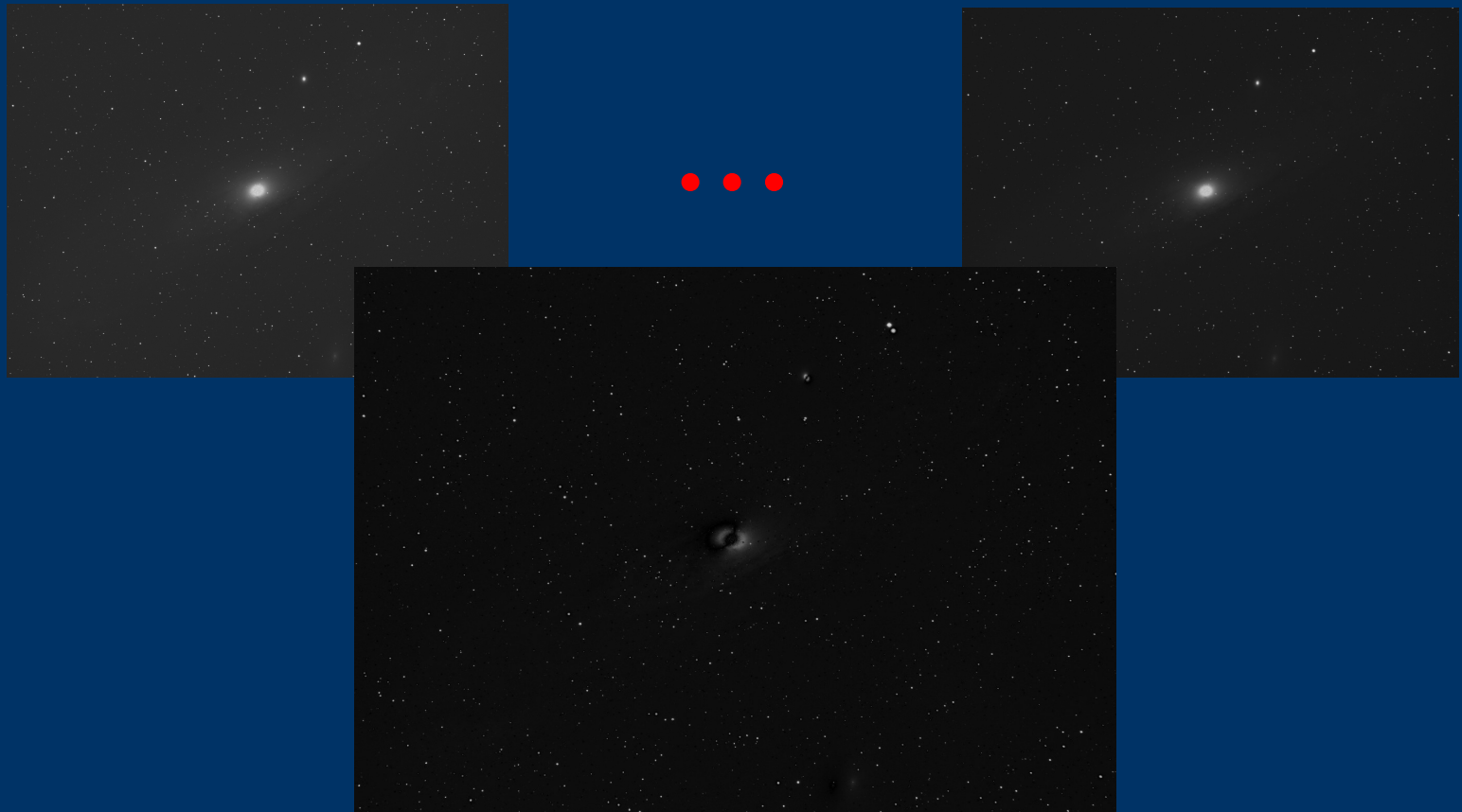
Lune : Clavius



Advanced Processing (4)

Derotation of DSOs

Image credit : Fabrice Noël



Demo : Loading ...

Registax processing PNG: E:\RCE-2008\Archives RCE\fitNoel\RCE2008\1-r0.png

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:205MB (HD:864136576)

Align Limit Colour Automatic processing FFT Graph Show Frame List Haltwindow Vista LargeAvi
 LRGB View full image Registration Graph Show Zoomed Image Calculate StackSlice Check for dropped frames

Align settings

Alignmentbox size
 32 128 512
 64 256

Alignment Method
 Default None
 Multi

Region of interest

Manual Alignment
 Userdefined Alignment Box

Alignment options

Processing area

Quality

Gradient2
Lowest quality 65
 Use Ninox

Tracking Settings


Track object
 Predict track
 Misalign warning
 Ignore misaligned frames

LRGB-Mixer

Automatic processing

Align to Optimize
 Limit to Optimize
 Optimize to Stack
 Stack to Wavelet

Language setting



Preview negative Preview gamma Frame (1): 1/4 Goto Frame 1 Auto limit

0% 11-195 Setup new Image datasection

Demo : Stack with no alignment ...

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:205MB (HD:864136576)

Align Limit Colour Automatic processing FFT Graph Show Frame List Haltwindow Vista LargeAvi
 LRGB View full image Registration Graph Show Zoomed Image Calculate StackSlice Check for dropped frames

Alignment options

Align settings

Alignment box size
 32 128 512
 64 256

Alignment Method
 Default None
 Multi

Region of interest

Manual Alignment
 Userdefined Alignment Box

Alignment options

Processing area

Quality

Gradient2
Lowest quality 65
 Use Ninox

Tracking Settings


Track object
 Predict track
 Misalign warning
 Ignore misaligned frames

LRGB-Mixer

Automatic processing

Align to Optimize
 Limit to Optimize
 Optimize to Stack
 Stack to Wavelet

Language setting



Preview negative Preview gamma Frame (4): 4/4 Goto Frame 1 Auto limit

0% 53-442 Setup new Image datasetion

Demo Result : Problem !



Nous allons le résoudre au mieux en deux temps...



Step 1: standard alignment 1 AP on a star ...

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:205MB (HD:864136576)

<< **Align** Limit Colour Automatic processing FFT Graph Show Frame List Haltwindow Vista LargeAvi
 LRGB View full image Registration Graph Show Zoomed Image Calculate StackSlice Check for dropped frames

Alignment options

Align settings

Alignmentbox size
 32 128 512
 64 256

Alignment Method
 Default None
 Multi

Region of interest

Manual Alignment
 Userdefined Alignment Box

Processing area

Quality

Gradient2

Lowest quality

Use Ninox


Tracking Settings

Track object
 Predict track
 Misalign warning
 Ignore misaligned frames

LRGB-Mixer

Automatic processing

Align to Optimize
 Limit to Optimize
 Optimize to Stack
 Stack to Wavelet



Rotation visible

Registax processing : E:\RCE-2008\Archives RCE\fitNoel\RCE2008\l3-r2.png

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:203MB (HD:864136576)

Process Do All **Save image** Realign_with Processed Reset

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- Show Compare

Wavelet filter: Default Gaussian

Waveletscheme: Dyadic (2^n) Linear

Initial Layer: 1 Step Increment: 0

Layer	Preview
<input checked="" type="checkbox"/> 1:1	1.0
<input checked="" type="checkbox"/> 2:1	1.0
<input checked="" type="checkbox"/> 3:1	1.0
<input checked="" type="checkbox"/> 4:1	1.0
<input checked="" type="checkbox"/> 5:1	1.0
<input checked="" type="checkbox"/> 6:1	1.0

Load Scheme Save Scheme

Gradient threshold 500

Graphs

Histogram Gamma

Resize Image RGB Balance

Wavelet Filter View Stacksize

View Gradient

Clipboard

Copy to Clipboard Difference with Clipboard

Toggle: Current Image Clipboard Image

Clipboardfront

Contrast/Brightness

Reset

Contrast: 100 Brightness: 0

Hold Settings

100% Calculating wavelets done pixel x:2 y:235 stacksize: 5.0 R: 0.0 G: 28.6 B: 0.0

Saving as AVI (8 bits)...

Stack Options
Additional options

Sigma Clip /AVI save

Sigma Stacking

Pixel operations during stacking

- Cut pixels below sigma-low
- Cut pixels above sigma-high
- Reject highest value per pixel

Sigma

Search
Events

Create AVI File

Create registered AVI file

-
- Image size
- Alignment area
 - Maximum area
- Sort On Quality

Create integrated AVI file

-
- Method
- Moving average
 - Compressed

Average of Frames



Loading, now 2 AP in a corner ...

The screenshot displays the software's main window with a dark starfield background. A red arrow points from the top-left corner towards the center. A central window titled "FFTspectrum graph" shows a small yellow star with a spectrum plot below it. The "FFTspectrum graph" window has a "Manual" checkbox checked and an "FFTfilter" set to 31. A "Recalc FFT" button is at the bottom. On the right, the "Multi-alignment_panel" is visible, showing "Multi A-method" set to "Multi-Quantity" and "Absolute" alignment. Below it is a table of alignment points:

	X	Y	FFT
1	174	193	128
2	307	282	128

At the bottom of the interface, the text "FFT à régler !" is written in white.

Future ligne d'ajustement des images

FFT and alignment with derotation...

Select Flat/Dark Imageinfo Project Save Load Save as Layouts LastLayout Save Reset Pause Cancel Batch

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:192MB (HD:864136576)

Align Limit Colour Automatic processing FFT Graph Show Frame List Haltwindow Vista LargeAvi Check for dropped frames
 LRGB View full image Registration Graph Show Zoomed Image Calculate StackSlice

Alignment options

Align settings

Alignmentbox size
 32 128 512
 64 256

Alignment Method
 Default None
 Multi

Region of interest

Manual Alignment
 Userdefined Alignment Box
 De - Rotate
 Save derotated JPEG

Processing area

Quality

Gradient2
 Lowest quality Use Ninox

Tracking Settings

Track object
 Predict track
 Misalign warning
 Ignore misaligned frames

LRGB-Mixer

Automatic processing

Align to Optimize
 Limit to Optimize
 Optimize to Stack
 Stack to Wavelet

Language setting

Multi-alignment_panel

Multi A-method
 Simple Multi-Quantity

Show Alignmentzones
 Maximum drift (pix) 10

Absolute Relative

Threshold 9 Radius 5
 Minimum distance between points (pix) 64

X: 2 Y: 2
 Matrix FFTsize 64
 Free space to edge 32

Alignmentpoints: 2

	X	Y	FFT
1	174	193	128
2	307	282	128

FFTspectrum graph

Manual
 FFTfilter 8

Frame (1) : (stacksize 1 / 4) [Low quality 0.0 %] Goto Frame 1 Auto limit

Aps follow the stars ...

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:192MB (HD:864136576)

Align Limit Colour Automatic processing FFT Graph Show Frame List Haltwindow Vista LargeAvi
 LRGB View full image Registration Graph Show Zoomed Image Calculate StackSlice Check for dro

Alignment options

Align settings

Alignmentbox size
 32 128 512
 64 256

Alignment Method
 Default None
 Multi

Region of interest

Manual Alignment
 Userdefined Alignment Box
 De - Rotate
 Save derotated JPEG

Processing area

Quality

Gradient2

Lowest quality

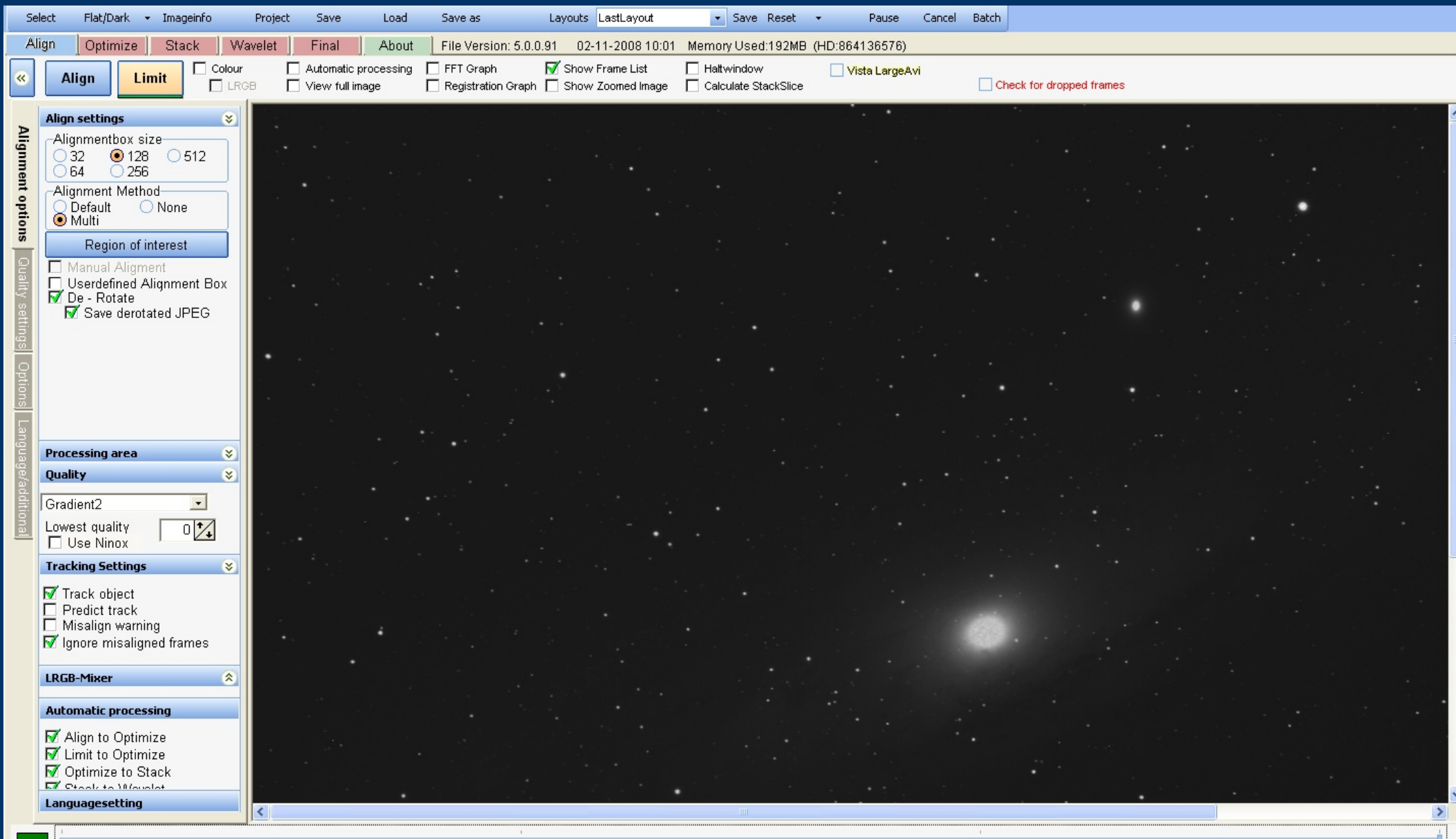
Use Ninox

Tracking Settings

Track object
 Predict track
 Misalign warning
 Ignore misaligned frames

LRGB-Mixer

Limit ...



Optimisation ...

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Me

Optimize & Stack Optimize

Optimizer mode
 V4 style V5 style

Optimizer setting

Optimizer Limits

Search area pixels

Optimize until less than % improvement

Graphs

Difference
 Movements

Options

Single run optimizer
 Reset alignmentpoints

Reference-Frame

Create a Reference frame

Frames to stack
Create Reference

Resample/Drizzle

Style None Resampling Drizzling

Method

Factor

Average pixel difference :3.761 max :5.175

Time Step	Average Pixel Difference	Max Pixel Difference
1	~5.175	5.175
2	~5.175	5.175
3	~4.5	~4.5
4	~4.2	~4.2
5	~3.761	~3.761

Stack with options...

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:193MB (HD:864136576)

Stack Save image Colour LRGB Stack Mode Standard Sigmaclip

Stack Options


Options

- Expand to maximum imagesize
- Stretch histogram after stacking
- Normalize intensity over frames
- Show Stacklist
- Show Stackgraph

Do not stack pixels at the frame

Multi-point stacking options

- Fast method
- Use feather of pixels
- Show alignment sections
- OptimalDerotate



100% 2Processing frame :4 Stack size (n=3) - (1442x1081)

Stack borders visible ...

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:193MB (HD:864136576)

Process Do All **Save image** Reset

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- Show Compare

Wavelet filter
 Default Gaussian

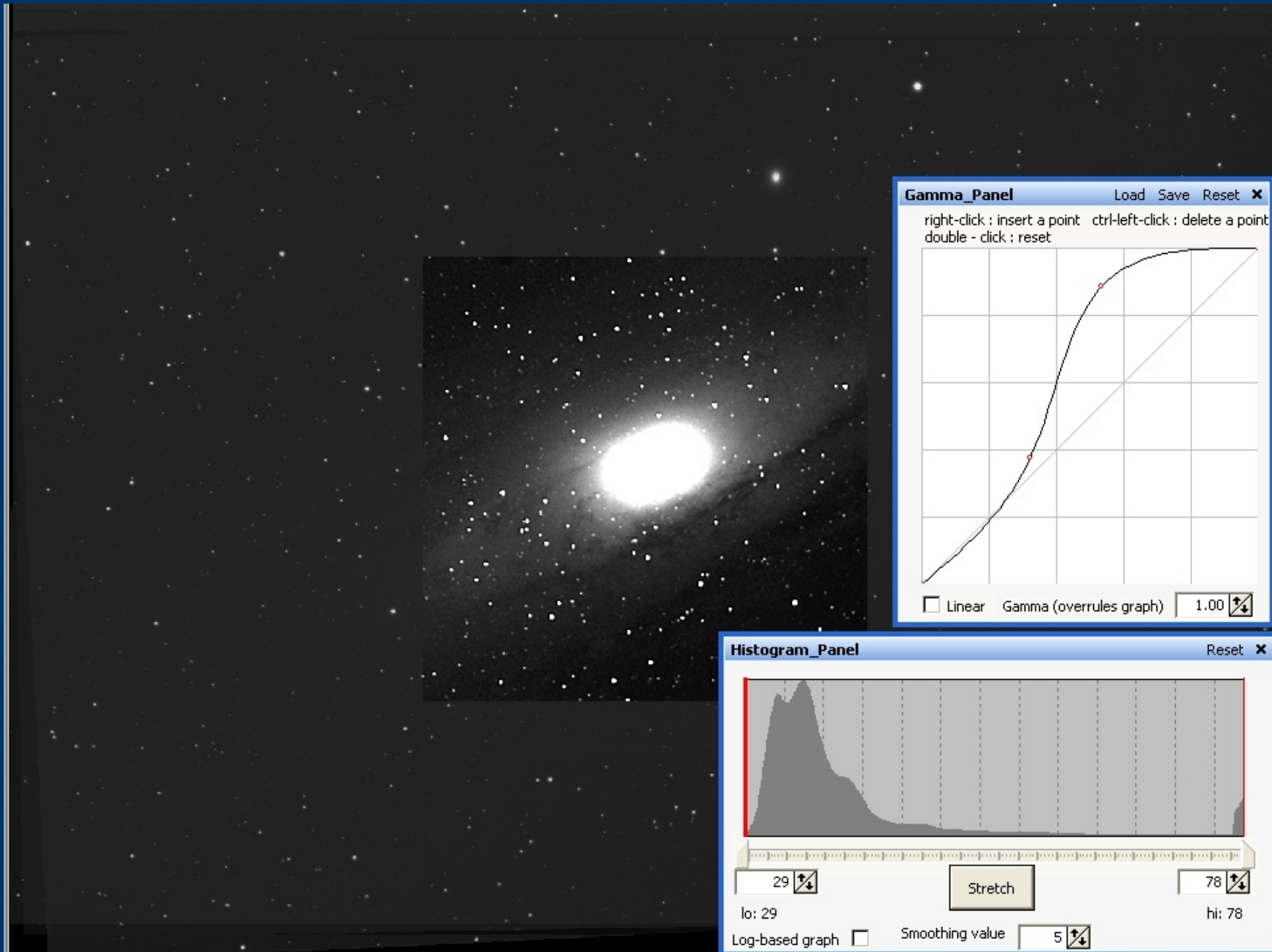
Waveletscheme
 Dyadic (2ⁿ) Linear

Initial Layer Step Increment

Layer	Preview
<input checked="" type="checkbox"/> 1 : 1	<input type="text" value="1.0"/>
<input checked="" type="checkbox"/> 2 : 1	<input type="text" value="1.0"/>
<input checked="" type="checkbox"/> 3 : 1	<input type="text" value="1.0"/>
<input checked="" type="checkbox"/> 4 : 1	<input type="text" value="1.0"/>
<input checked="" type="checkbox"/> 5 : 1	<input type="text" value="1.0"/>
<input checked="" type="checkbox"/> 6 : 1	<input type="text" value="1.0"/>

Gradient threshold

Processing ...



Derotation done ...

Align Optimize Stack Wavelet Final About File Version: 5.0.0.91 02-11-2008 10:01 Memory Used:193MB (HD:864136576)

Process Do All Save image Reset

Lock on Alignment

Wavelet settings

- Automatic
- Hold Wavelet Setting
- Show Processing Area
- Show Alignment Points
- View Full Image
- Show Zoomed
- Show Compare

Wavelet filter:
 Default Gaussian


Waveletscheme:
 Dyadic (2ⁿ) Linear

Initial Layer: 1 Step Increment: 0

Layer	Preview
<input type="checkbox"/> 1:1 0.25	1.0
<input checked="" type="checkbox"/> 2:1 0.10	30.4
<input checked="" type="checkbox"/> 3:1 0.10	1.0
<input checked="" type="checkbox"/> 4:1 0.10	1.0
<input checked="" type="checkbox"/> 5:1 0.10	1.0
<input checked="" type="checkbox"/> 6:1 0.10	1.0

Load Scheme Save Scheme

Gradient threshold 500



100% Do_all processing finished pixel x:97 y:9 stacksize: 52.7 R: 32.3 G: 33.1 B: 0.0