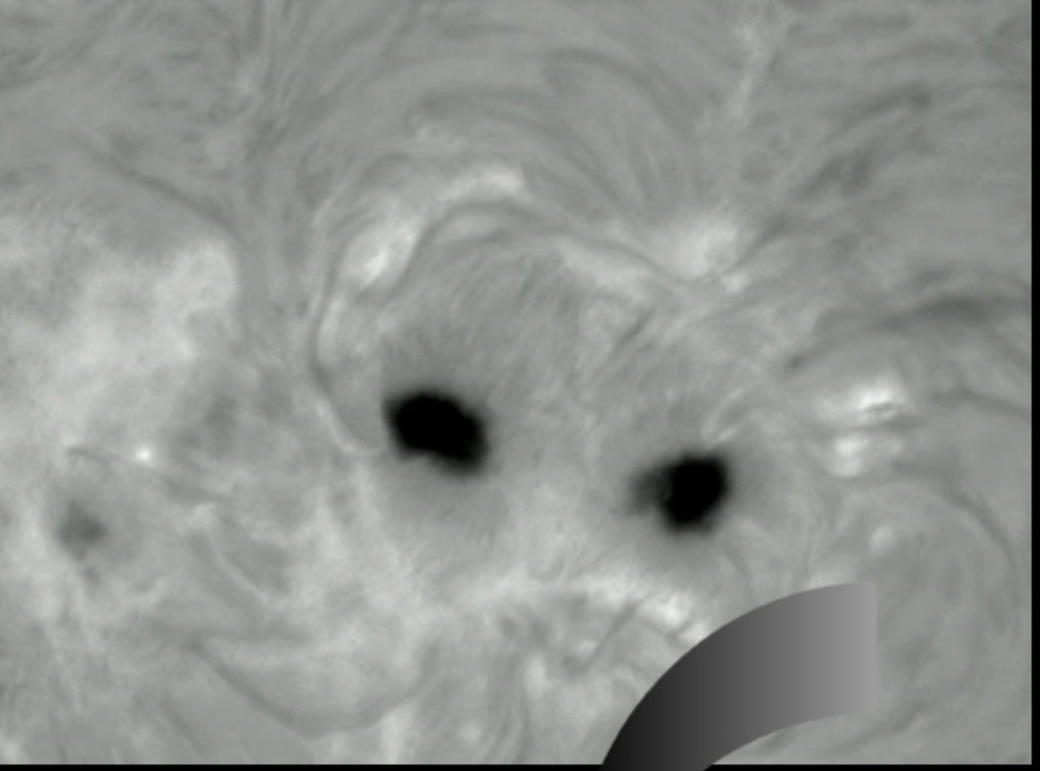
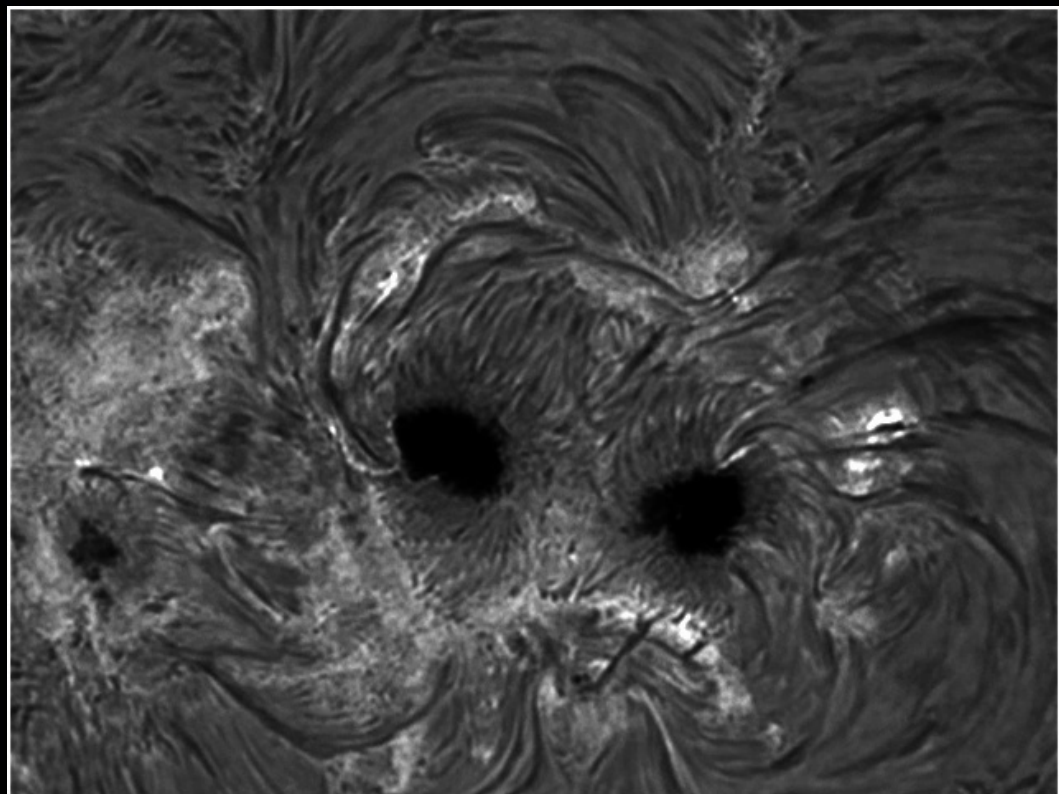
Advanced Processing (1)

Sun H-Alpha

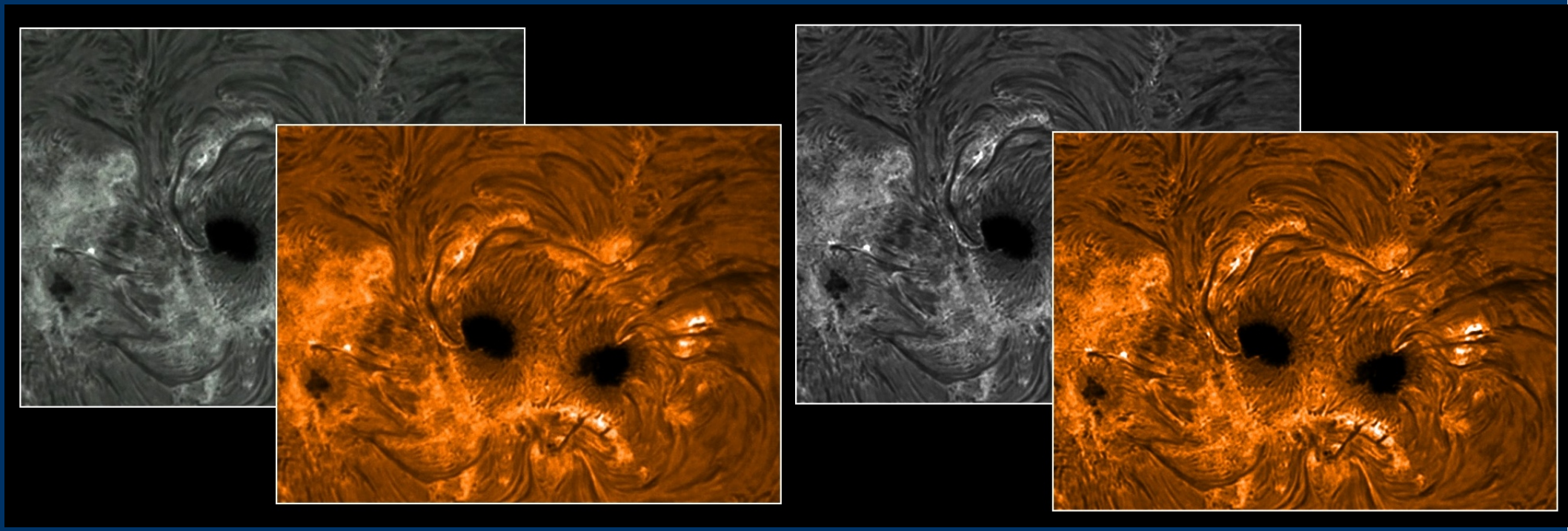
AVI from ToUCam with Astrosnap

Soleil - H alpha





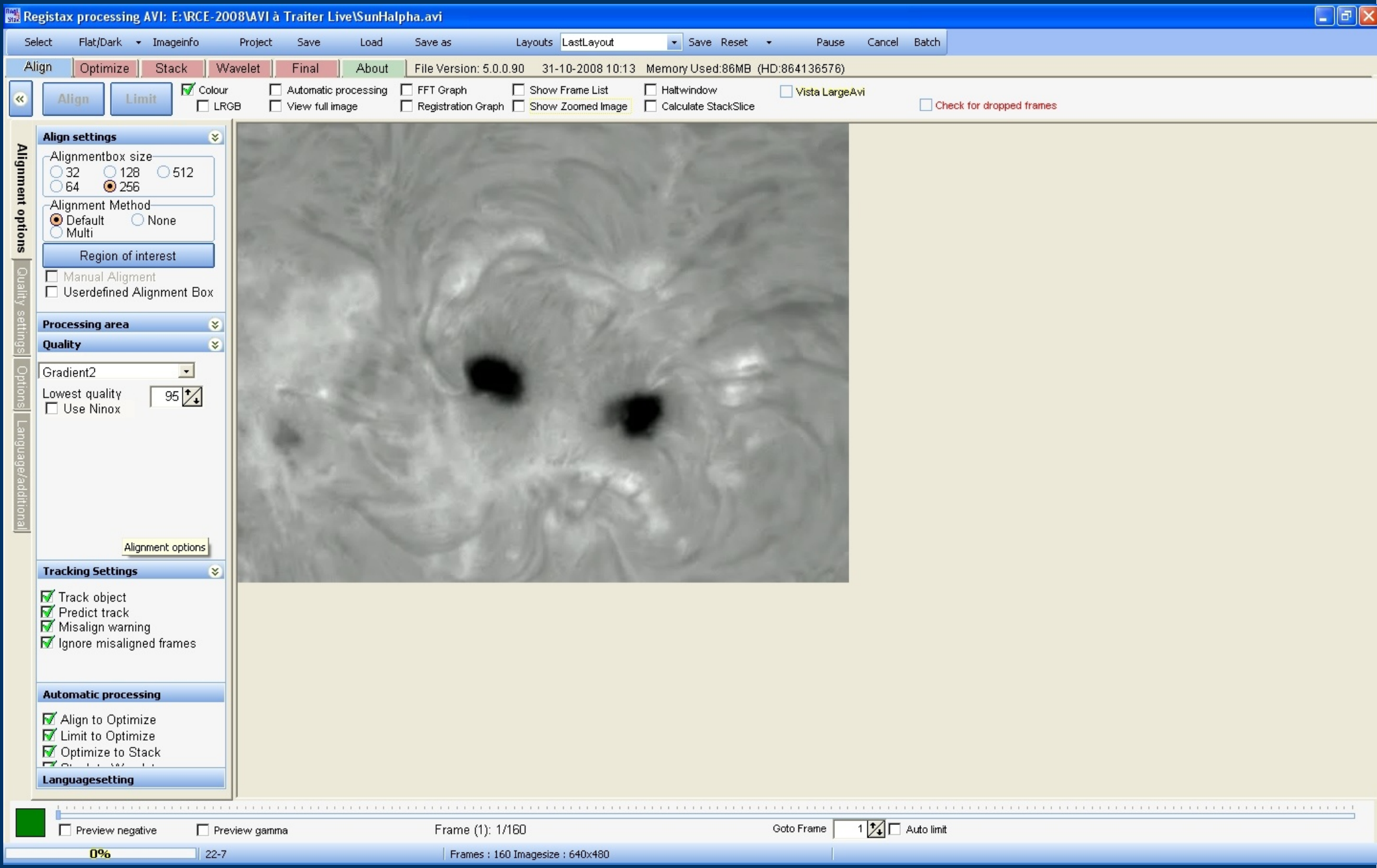
This time with a « DOT MATRIX » … results preview !



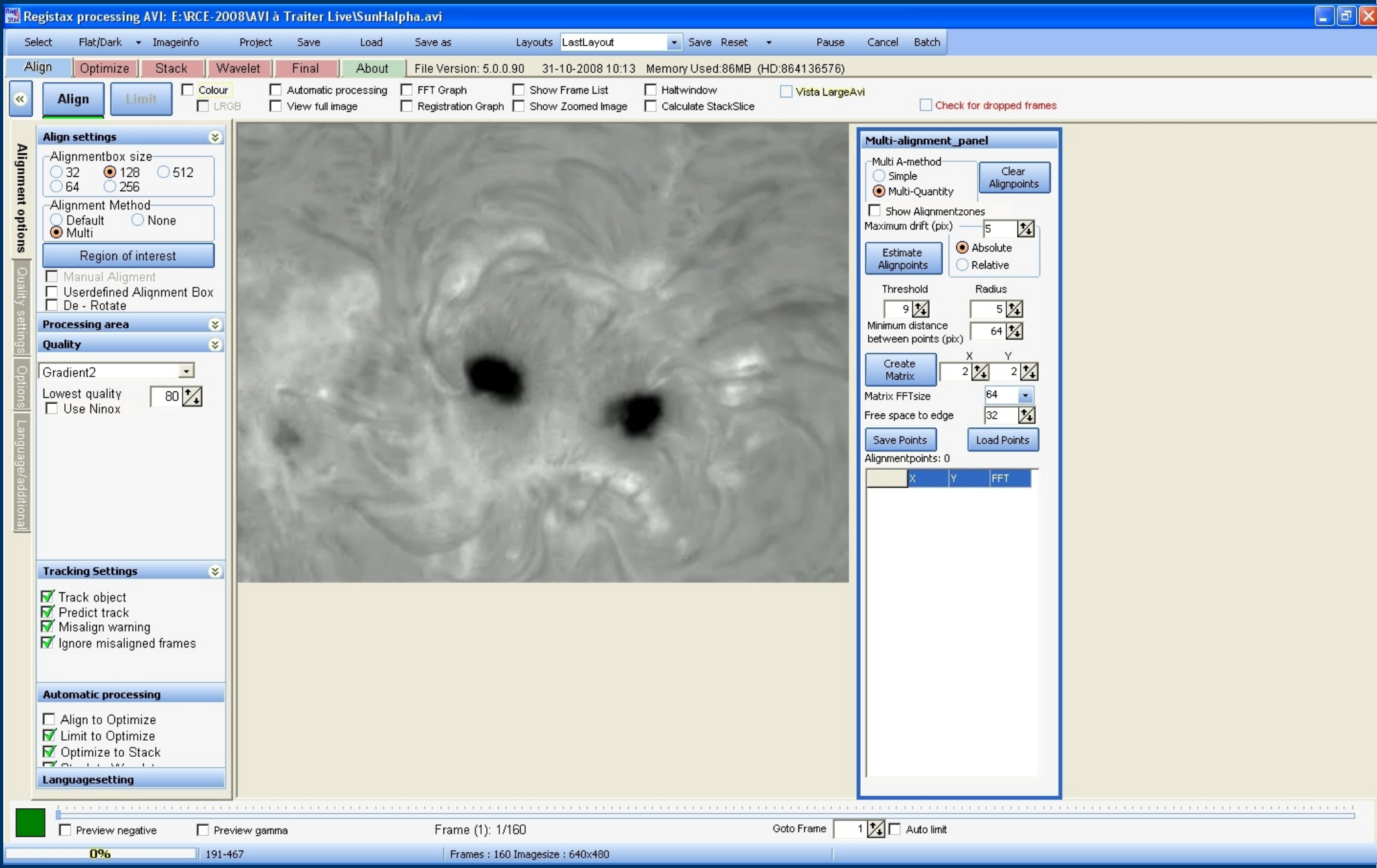
1 AP

Dot Matrix

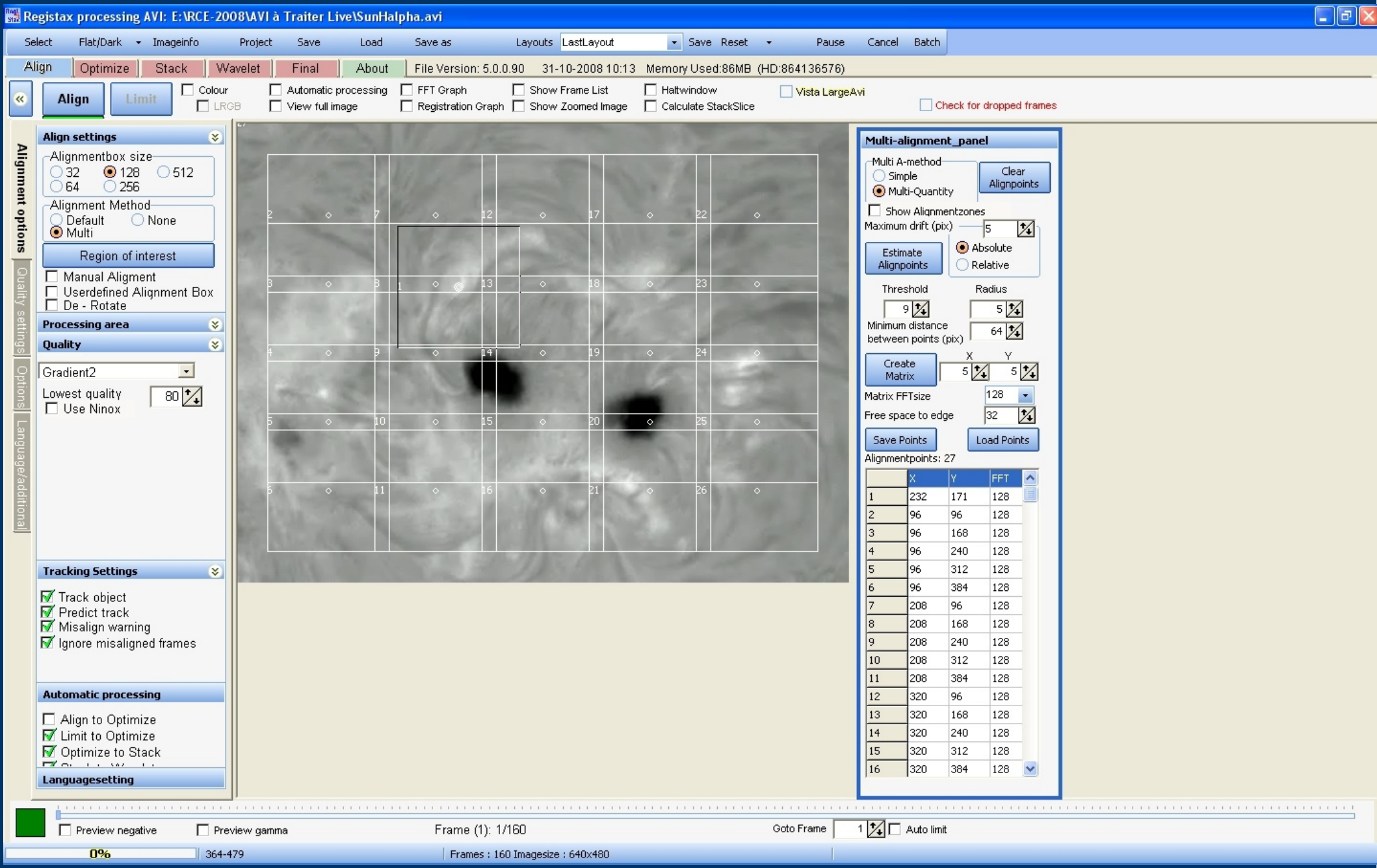
AVI loading...


Registax processing AVI: E:\RCE-2008\AVI à Traiter Live\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:86MB (HD:864136576)
Align
Limit
Colour
LRGB
Automatic processing
View full image
FFT Graph
Registration Graph
Show Frame List
Show Zoomed Image
Haltwindow
Calculate StackSlice
Vista LargeAvi
Check for dropped frames
Alignment options
Quality settings
Options
Language/additional
Align settings
Alignmentbox size
32
64
128
256
512
Alignment Method
Default
Multi
None
Region of interest
Manual Aligment
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
Languagesetting
Preview negative
Preview gamma
Frame (1): 1/160
Goto Frame
1
Auto limit
0%
22-7
Frames : 160 Imagesize : 640x480

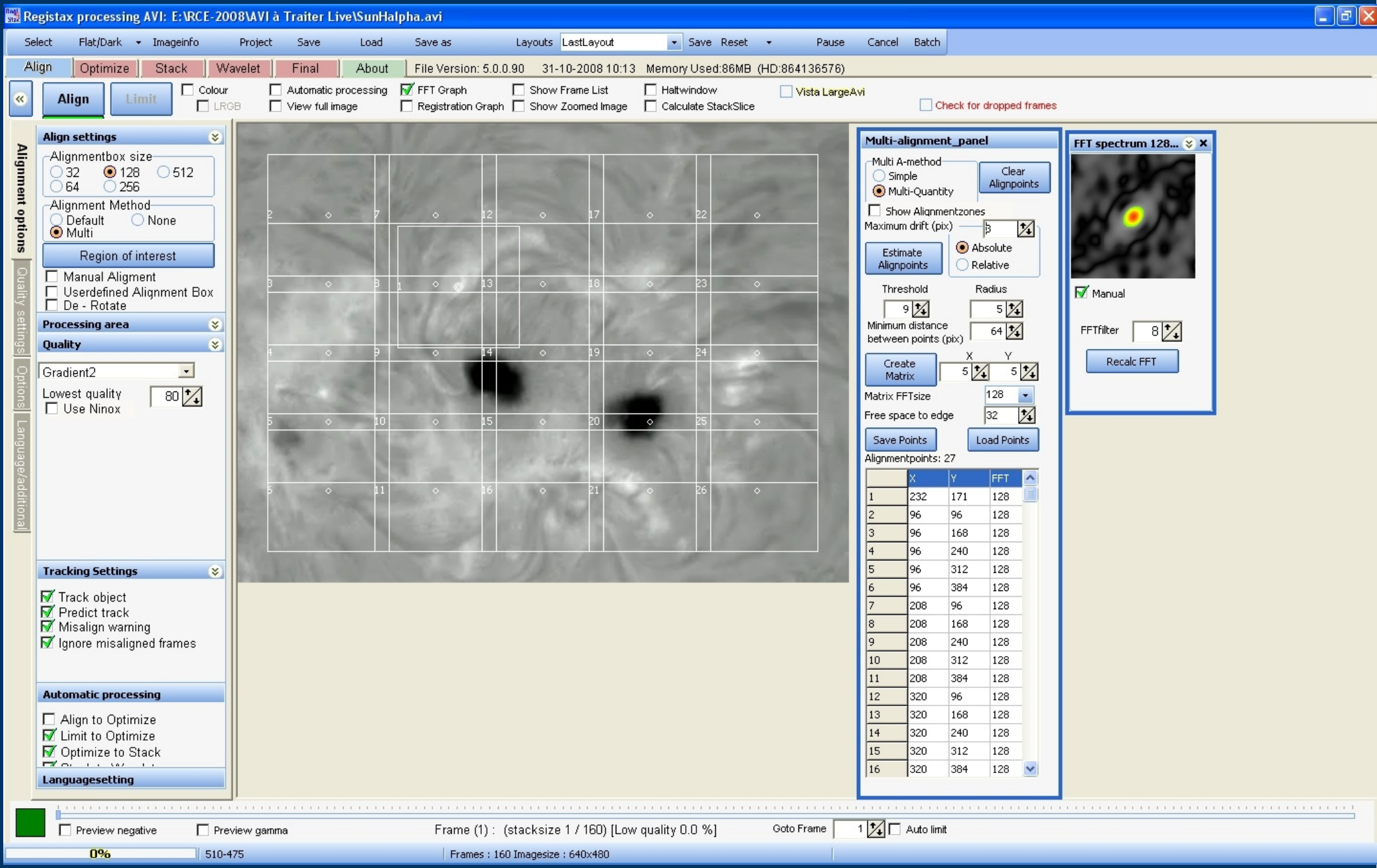
Multipoint


Registax processing AVI: E:\RCE-2008\AVI à Traiter Live\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:86MB (HD:864136576)
Align
Limit
Colour
LRGB
Automatic processing
View full image
FFT Graph
Registration Graph
Show Frame List
Show Zoomed Image
Haltwindow
Calculate StackSlice
Vista LargeAvi
Check for dropped frames
Alignment options
Quality settings
Options
Language/additional
Align settings
Alignmentbox size
32
64
128
256
512
Alignment Method
Default
None
Multi
Region of interest
Manual Aligment
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
Languagesetting
Multi-alignment_panel
Multi A-method
Simple
Multi-Quantity
Clear Alignpoints
Show Alignmentzones
Maximum drift (pix)
5
Estimate Alignpoints
Absolute
Relative
Threshold
Radius
9
5
Minimum distance between points (pix)
64
Create Matrix
X
Y
2
2
Matrix FFTsize
64
Free space to edge
32
Save Points
Load Points
Alignmentpoints: 0
X
Y
FFT
Preview negative
Preview gamma
Frame (1): 1/160
Goto Frame
1
Auto limit
0%
191-467
Frames : 160 Imagesize : 640x480

Matrix

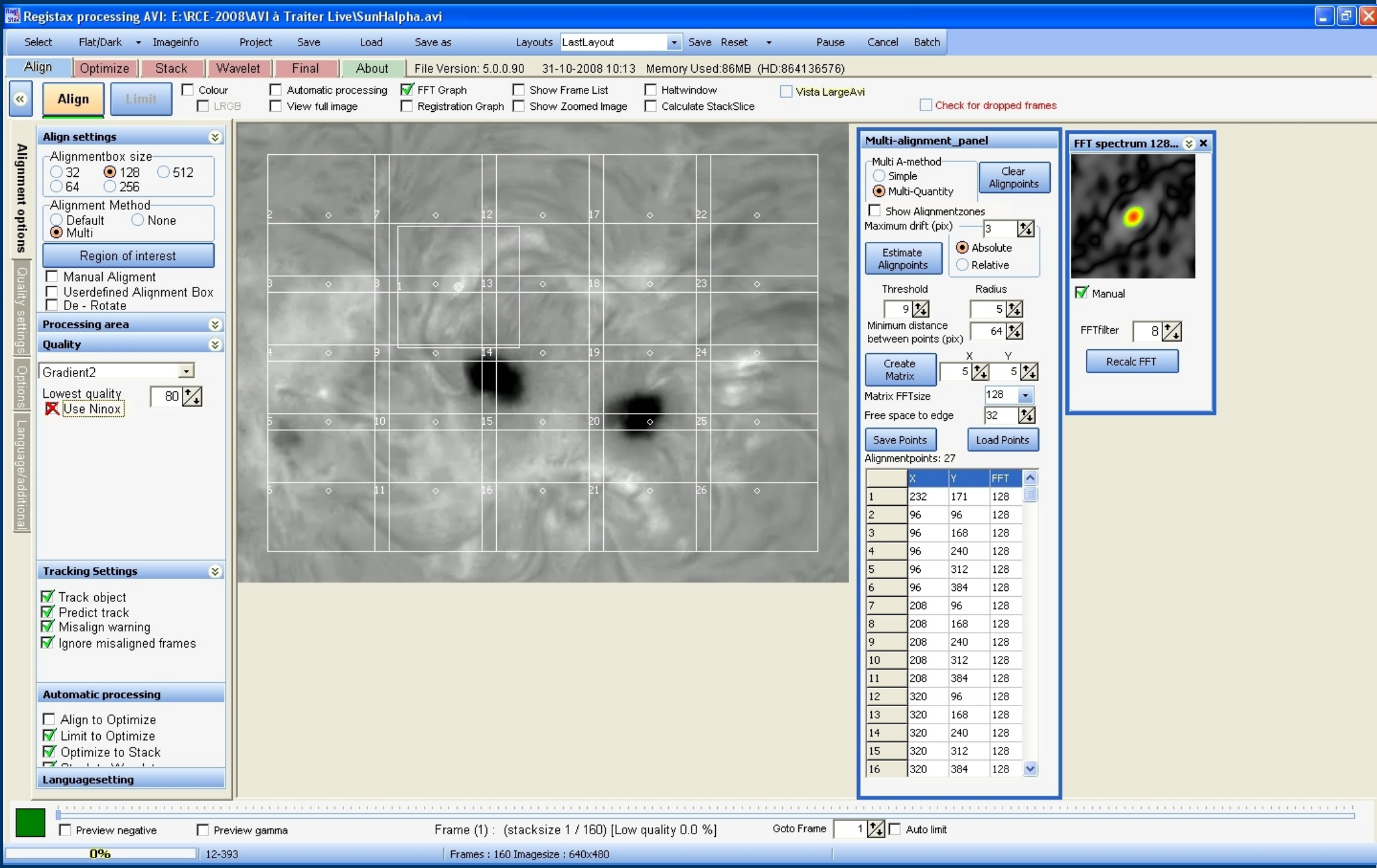

Registax processing AVI: E:\RCE-2008\AVI à Traiter Live\SunHalpha.avi
Select
Flat/Dark
Imageinfo
Project
Save
Load
Save as
Layouts
LastLayout
Save
Reset
Pause
Cancel
Batch
Align
Optimize
Stack
Wavelet
Final
About
File Version: 5.0.0.90
31-10-2008 10:13
Memory Used:86MB (HD:864136576)
Align
Limit
Colour
LRGB
Automatic processing
View full image
FFT Graph
Registration Graph
Show Frame List
Show Zoomed Image
Haltwindow
Calculate StackSlice
Vista LargeAvi
Check for dropped frames
Alignment options
Quality settings
Options
Language/additional
Align settings
Alignmentbox size
32
64
128
256
512
Alignment Method
Default
None
Multi
Region of interest
Manual Aligment
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
Languagesetting
Multi-alignment_panel
Multi A-method
Simple
Multi-Quantity
Clear Alignpoints
Show Alignmentzones
Maximum drift (pix)
5
Estimate Alignpoints
Absolute
Relative
Threshold
9
Radius
5
Minimum distance between points (pix)
64
Create Matrix
X
Y
5
5
Matrix FFTsize
128
Free space to edge
32
Save Points
Load Points
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
1
Auto limit
0%
364-479
Frames : 160 Imagesize : 640x480

FFT

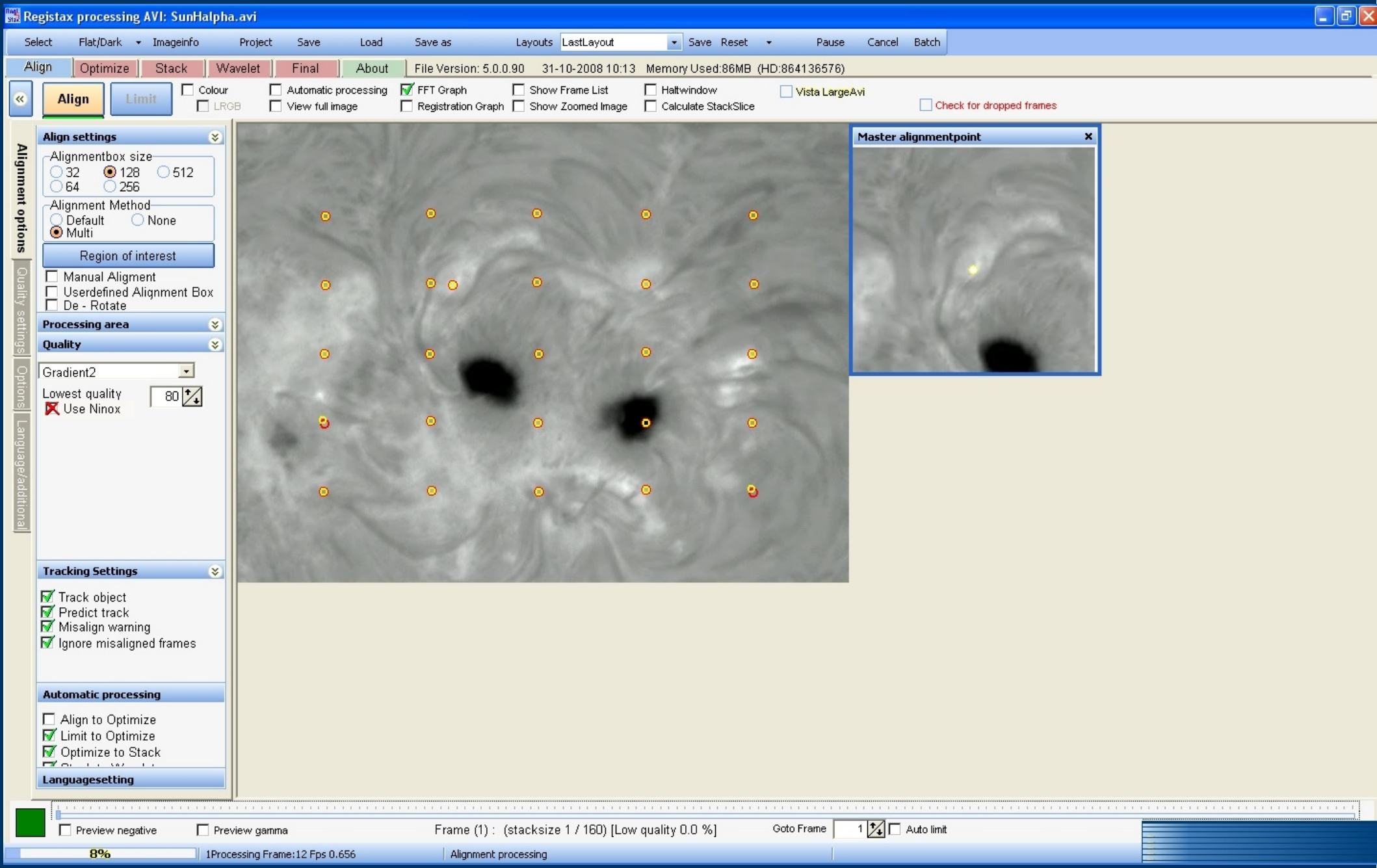


	X	Y	FFT
1	232	171	128
2	96	96	128
3	96	168	128
4	96	240	128
5	96	312	128
6	96	384	128
7	208	96	128
8	208	168	128
9	208	240	128
10	208	312	128
11	208	384	128
12	320	96	128
13	320	168	128
14	320	240	128
15	320	312	128
16	320	384	128

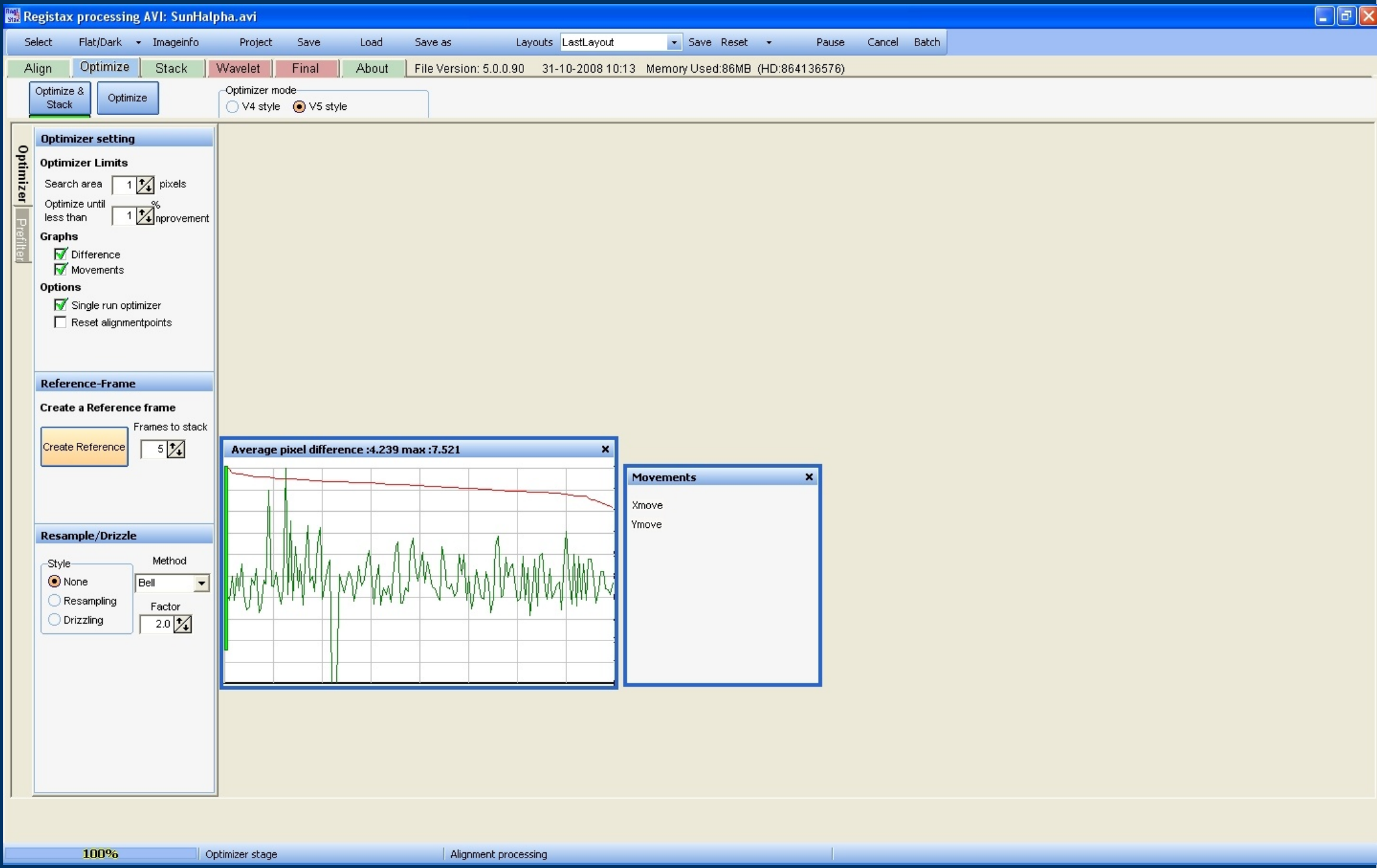
Choice of discriminator



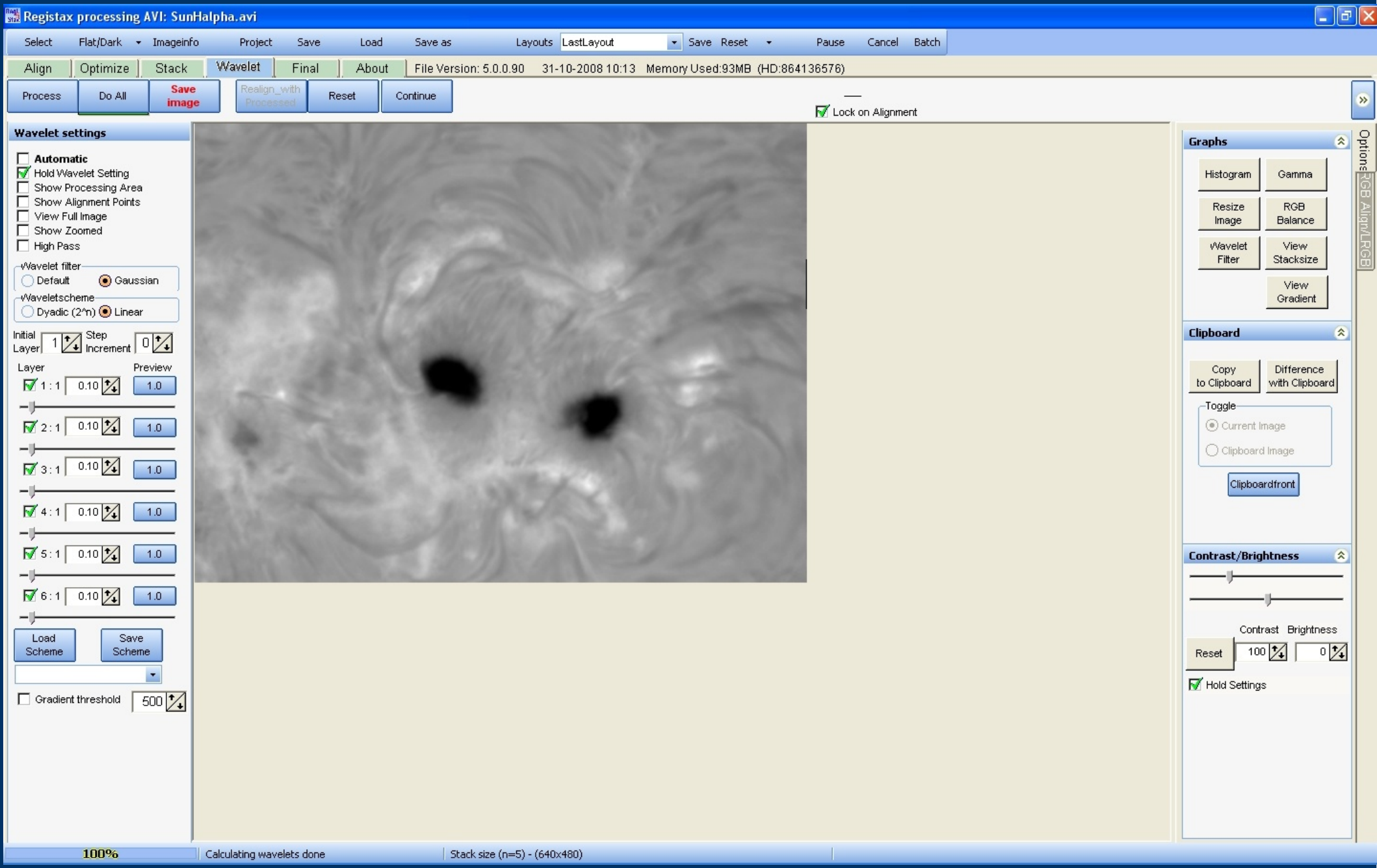
Alignement...


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:86MB (HD:864136576)
Align
Limit
Colour
LRGB
Automatic processing
View full image
FFT Graph
Registration Graph
Show Frame List
Show Zoomed Image
Haltwindow
Calculate StackSlice
Vista LargeAvi
Check for dropped frames
Alignment options
Quality settings
Options
Language/additional
Align settings
Alignmentbox size
32
64
128
256
512
Alignment Method
Default
None
Multi
Region of interest
Manual Aligment
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
Languagesetting
Master alignmentpoint
Preview negative
Preview gamma
Frame (1) : (stacksize 1 / 160) [Low quality 0.0 %]
Goto Frame
1
Auto limit
8%
1Processing Frame:12 Fps 0.656
Alignment processing

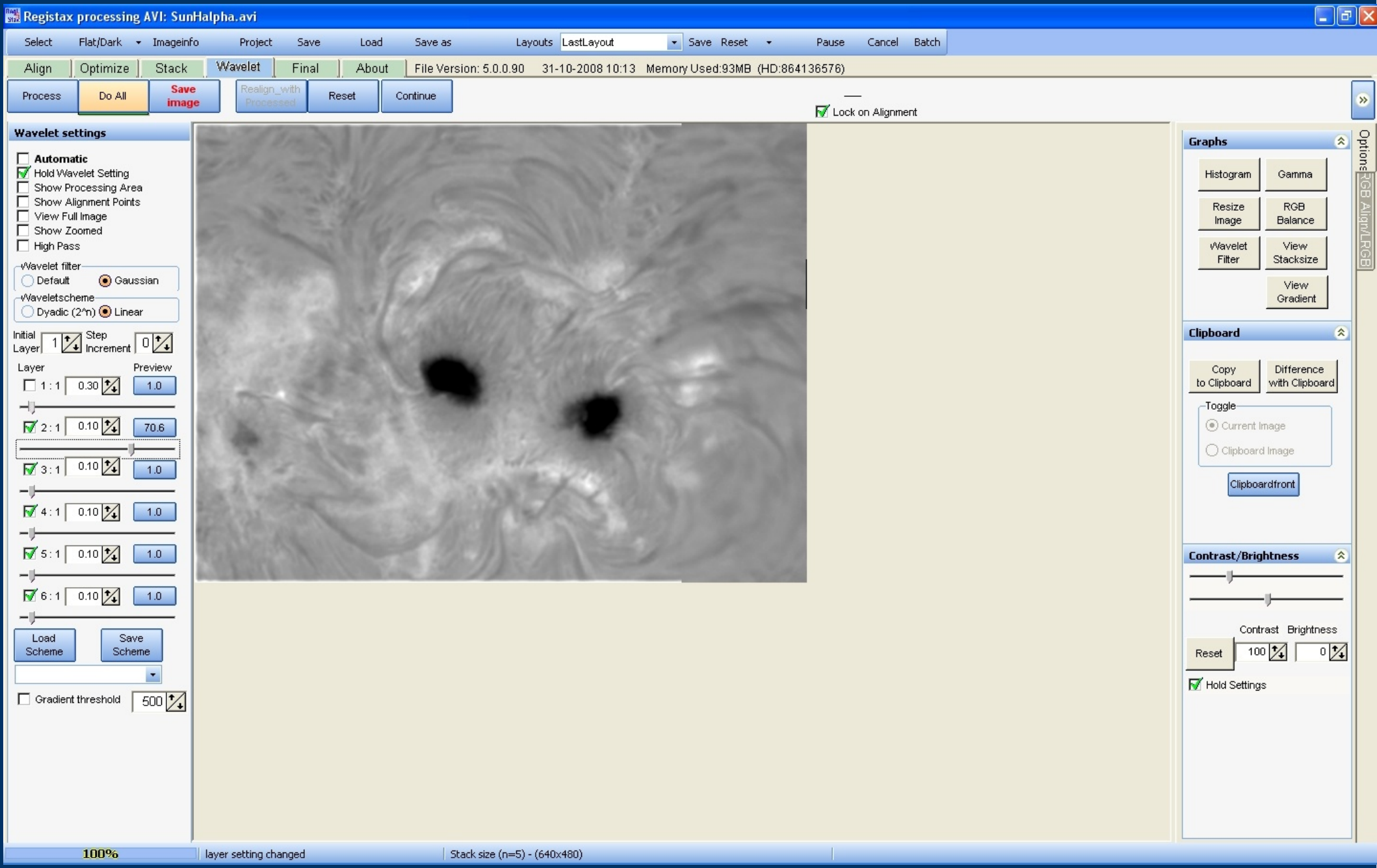
Reference image ...



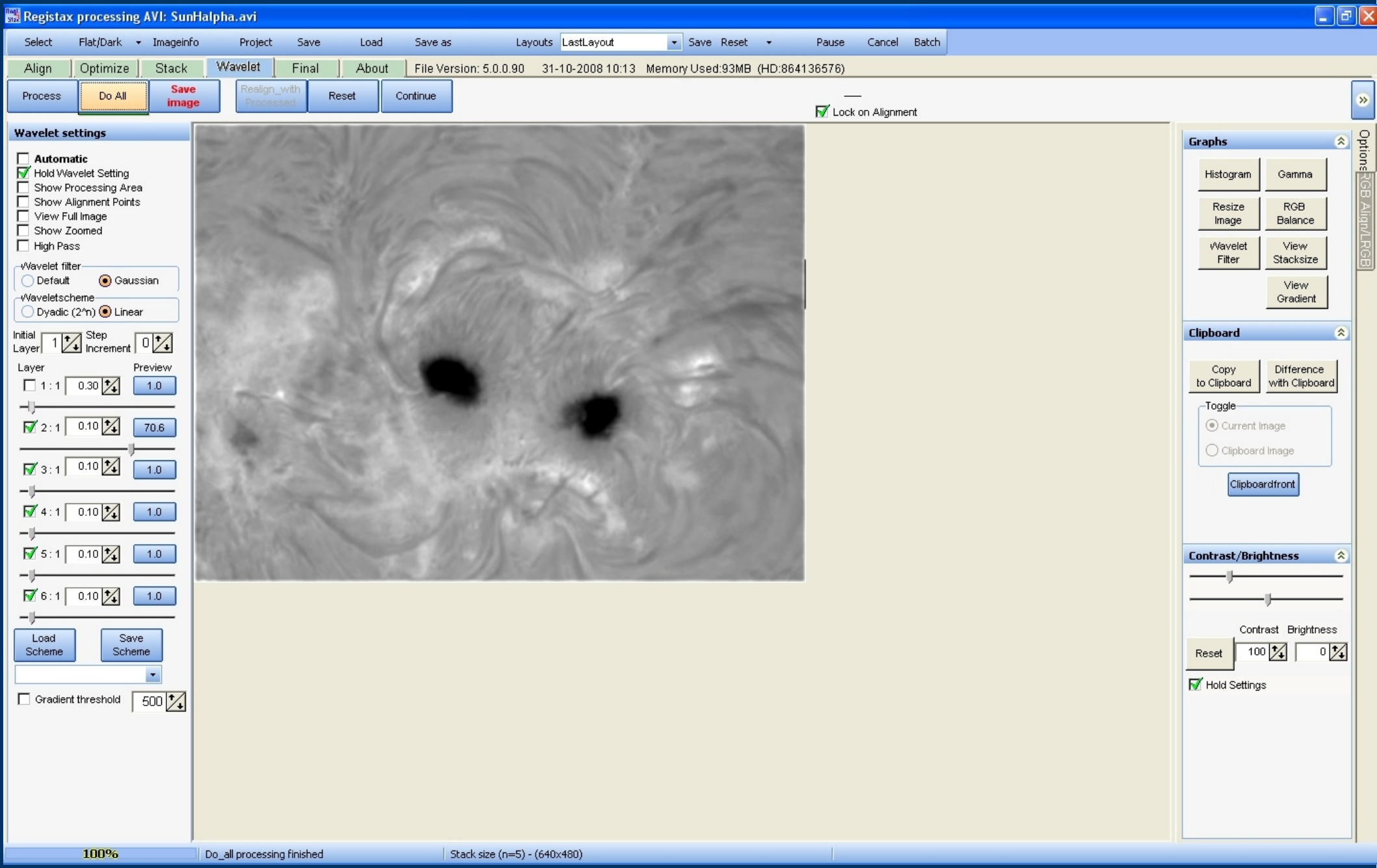
Work on reference image...



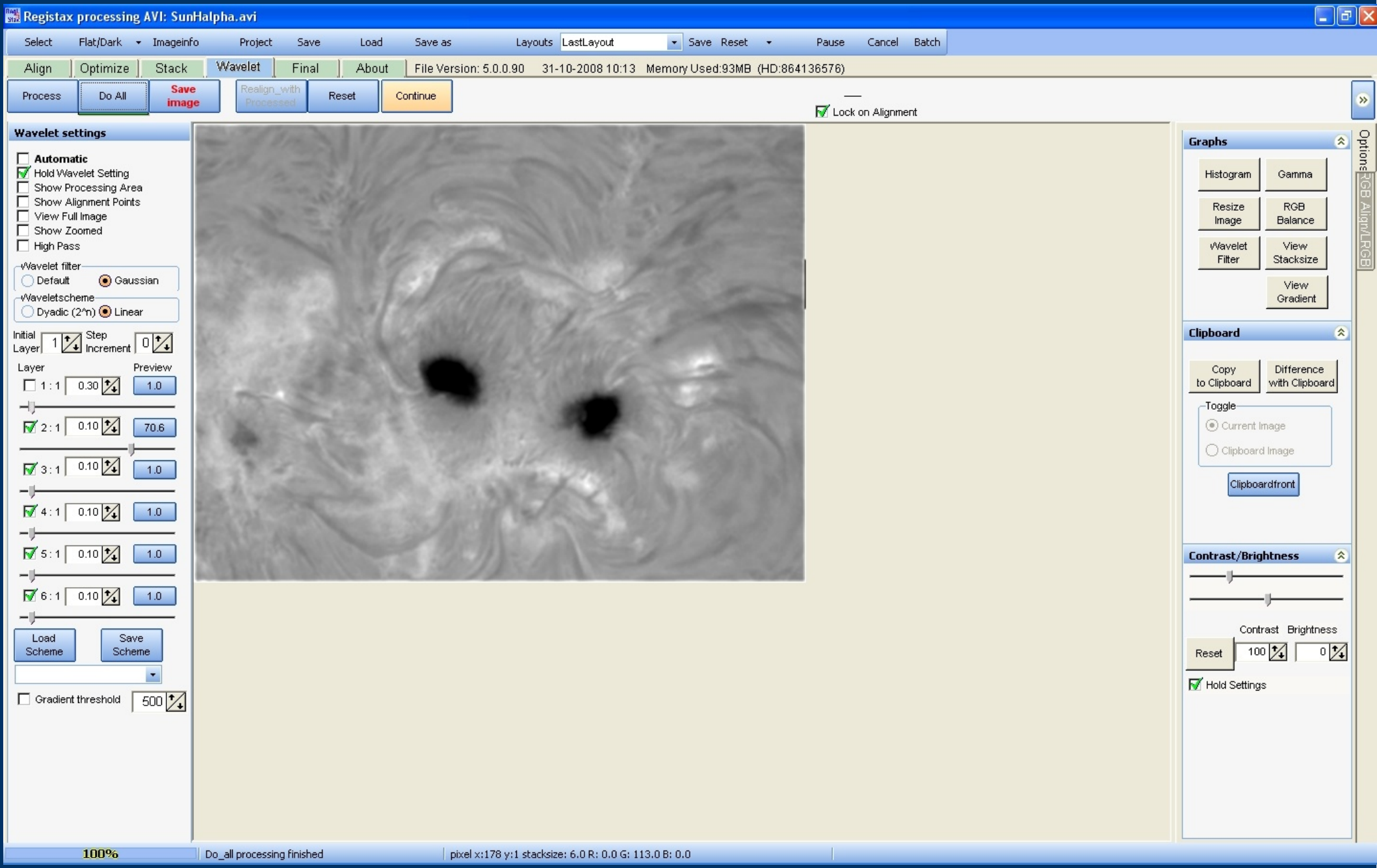
Wavelets and noice reduction (use of layer 1) ...



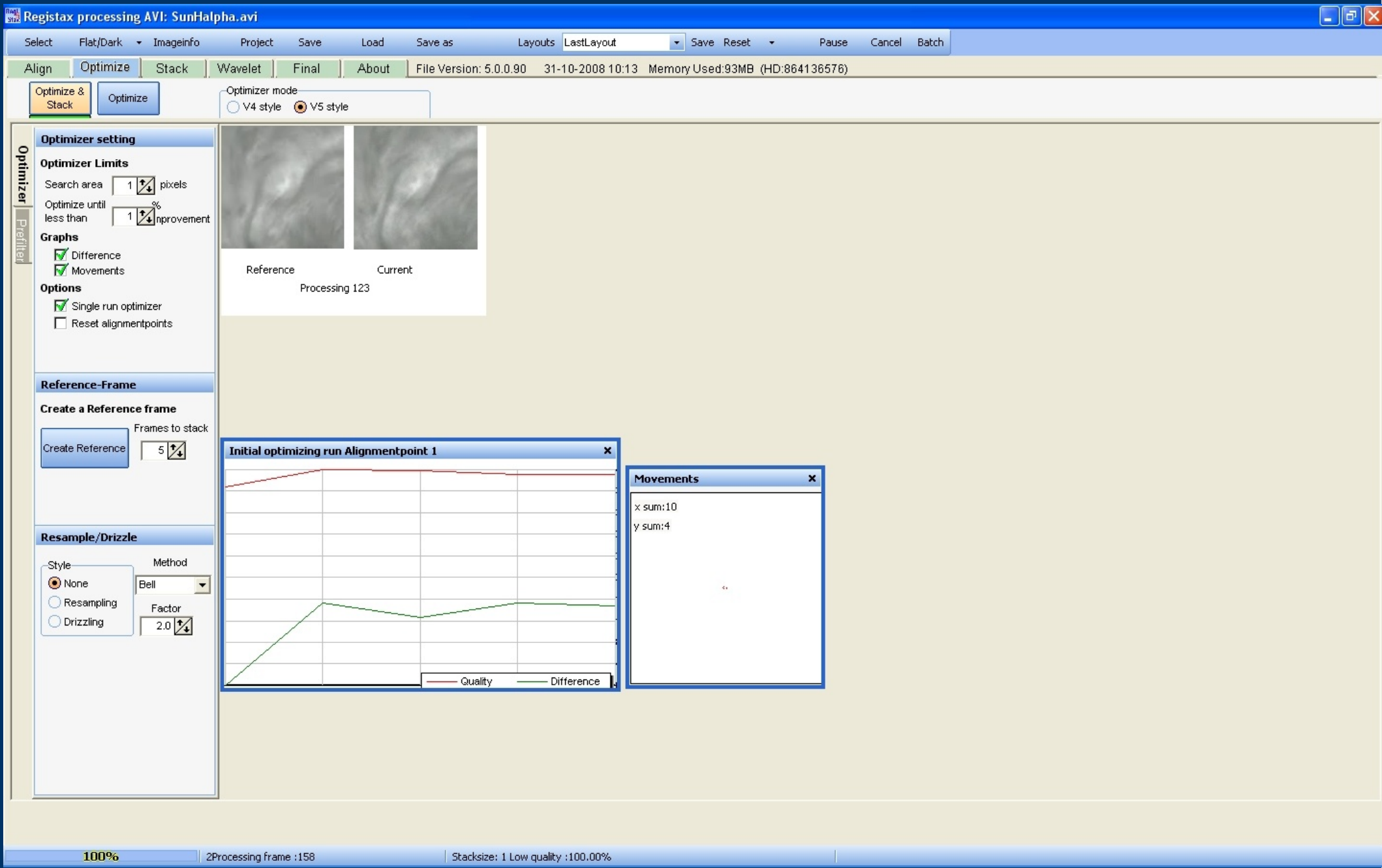
Do all ...


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
Step Increment
Layer
Preview
1 : 1
2 : 1
3 : 1
4 : 1
5 : 1
6 : 1
Load Scheme
Save Scheme
Gradient threshold
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
Hold Settings
Options
RGB Align/LRGB
100%
Do_all processing finished
Stack size (n=5) - (640x480)

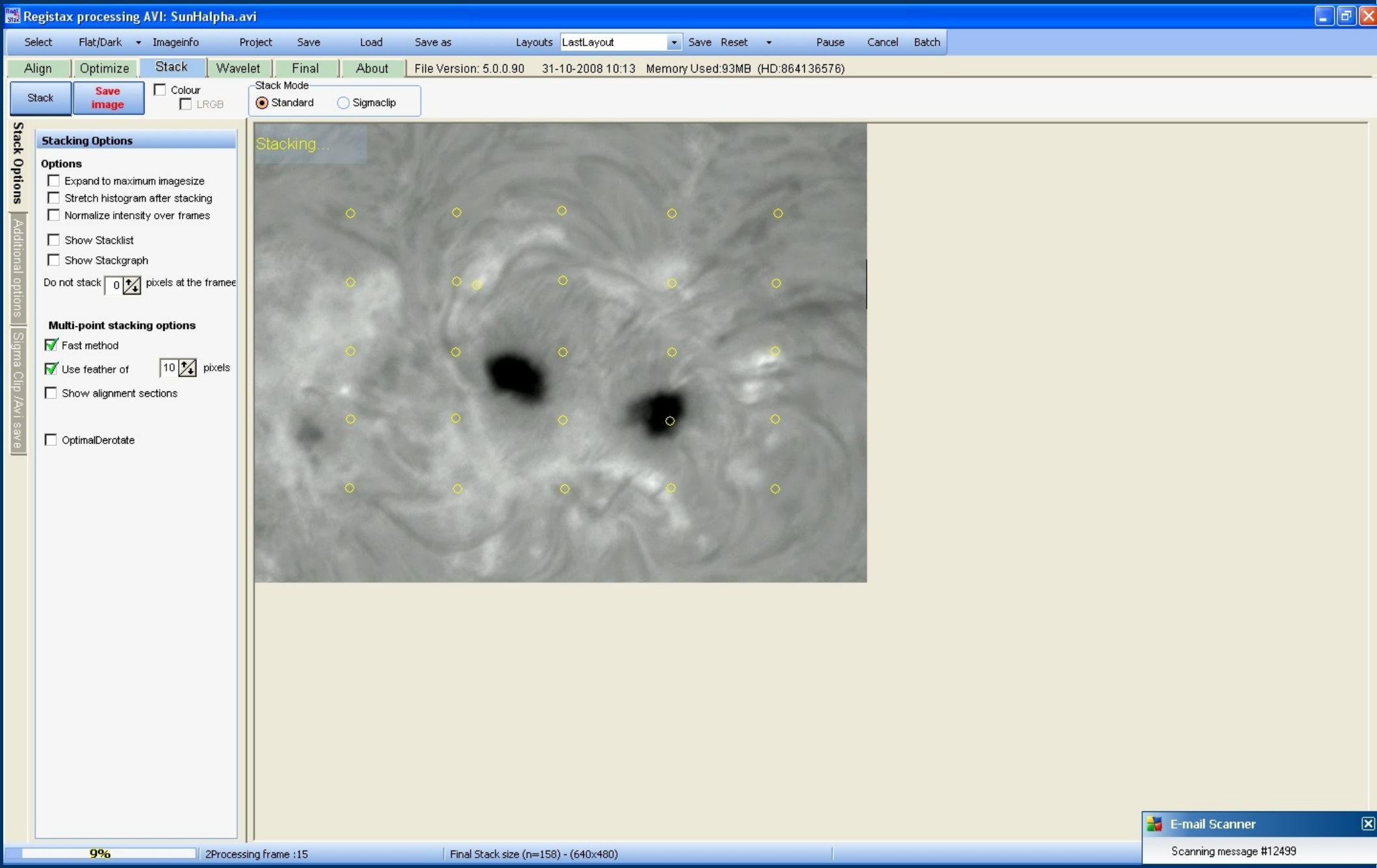
Continue ...


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
Step Increment
Layer
Preview
1 : 1
2 : 1
3 : 1
4 : 1
5 : 1
6 : 1
Load Scheme
Save Scheme
Gradient threshold
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
Hold Settings
Options
RGB Align/LRGB
100%
Do_all processing finished
pixel x:178 y:1 stacksize: 6.0 R: 0.0 G: 113.0 B: 0.0

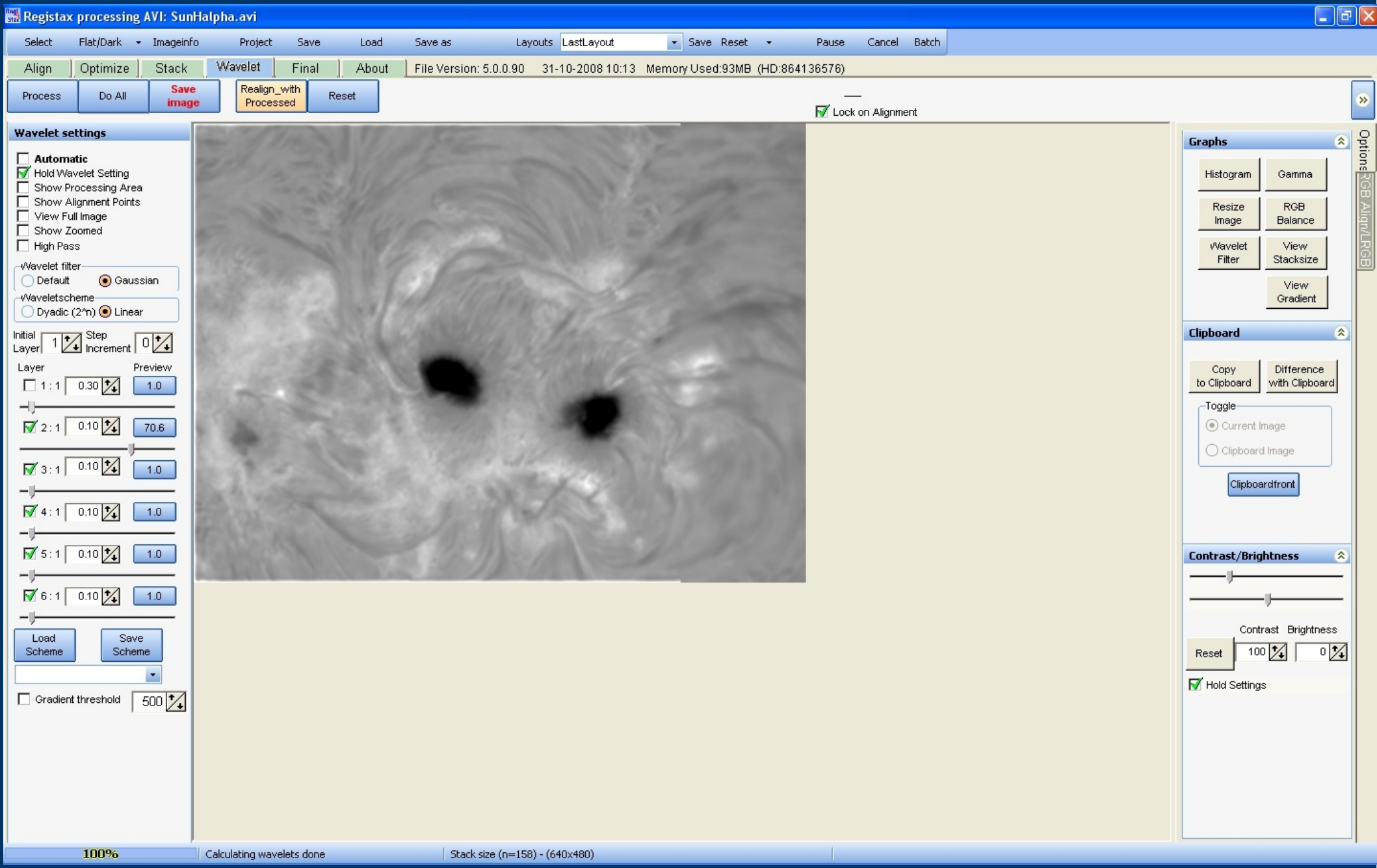
Optimisation...



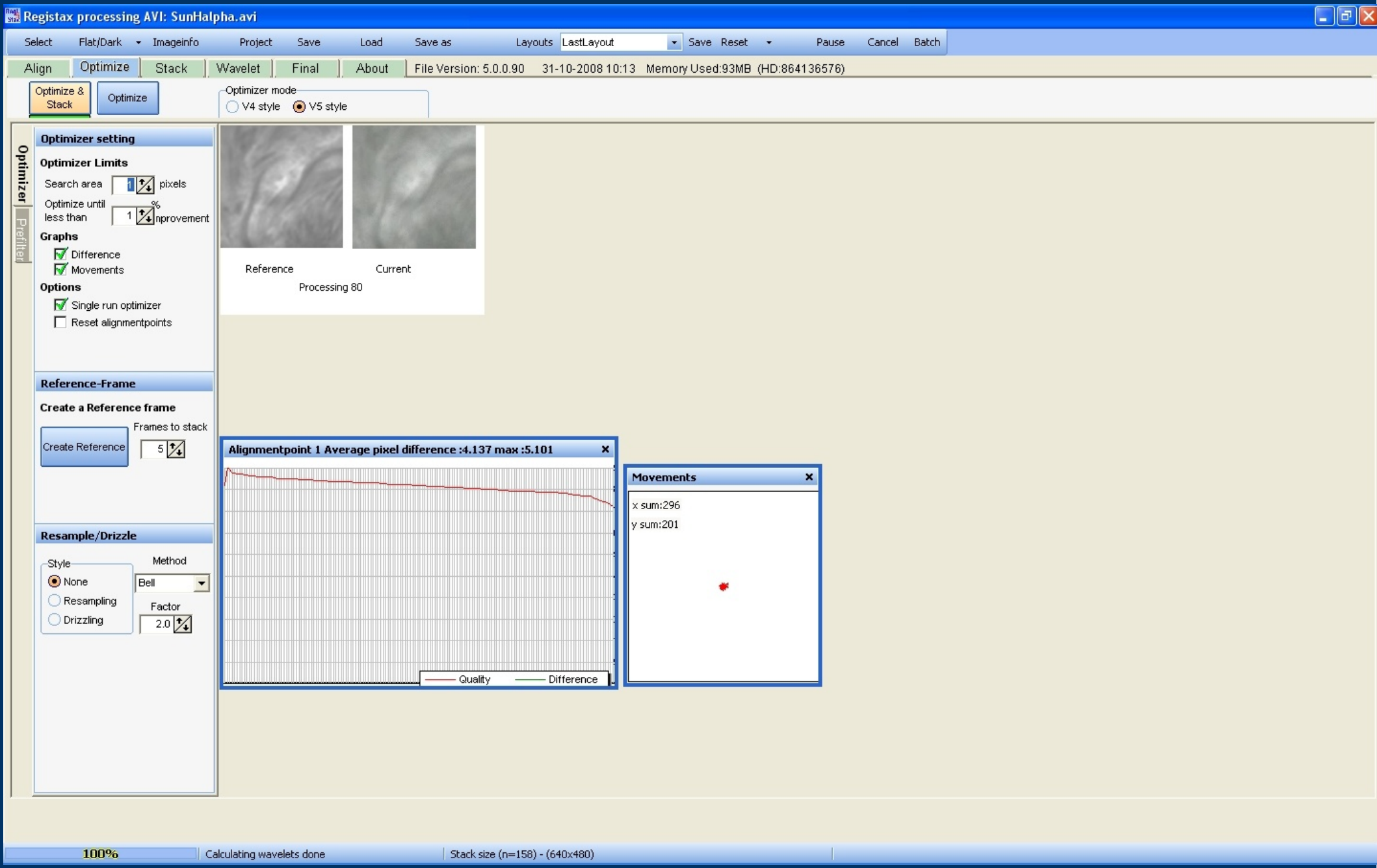
Stack ...


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
LRGB
Stack Mode
Standard
Sigmaclip
Stack Options
Additional options
Sigma Clip /Avi save
Stacking Options
Options
Expand to maximum imagesize
Stretch histogram after stacking
Normalize intensity over frames
Show Stacklist
Show Stackgraph
Do not stack 0 pixels at the framee
Multi-point stacking options
Fast method
Use feather of 10 pixels
Show alignment sections
OptimalDerotate
Stacking...
9%
2Processing frame :15
Final Stack size (n=158) - (640x480)
E-mail Scanner
Scanning message #12499

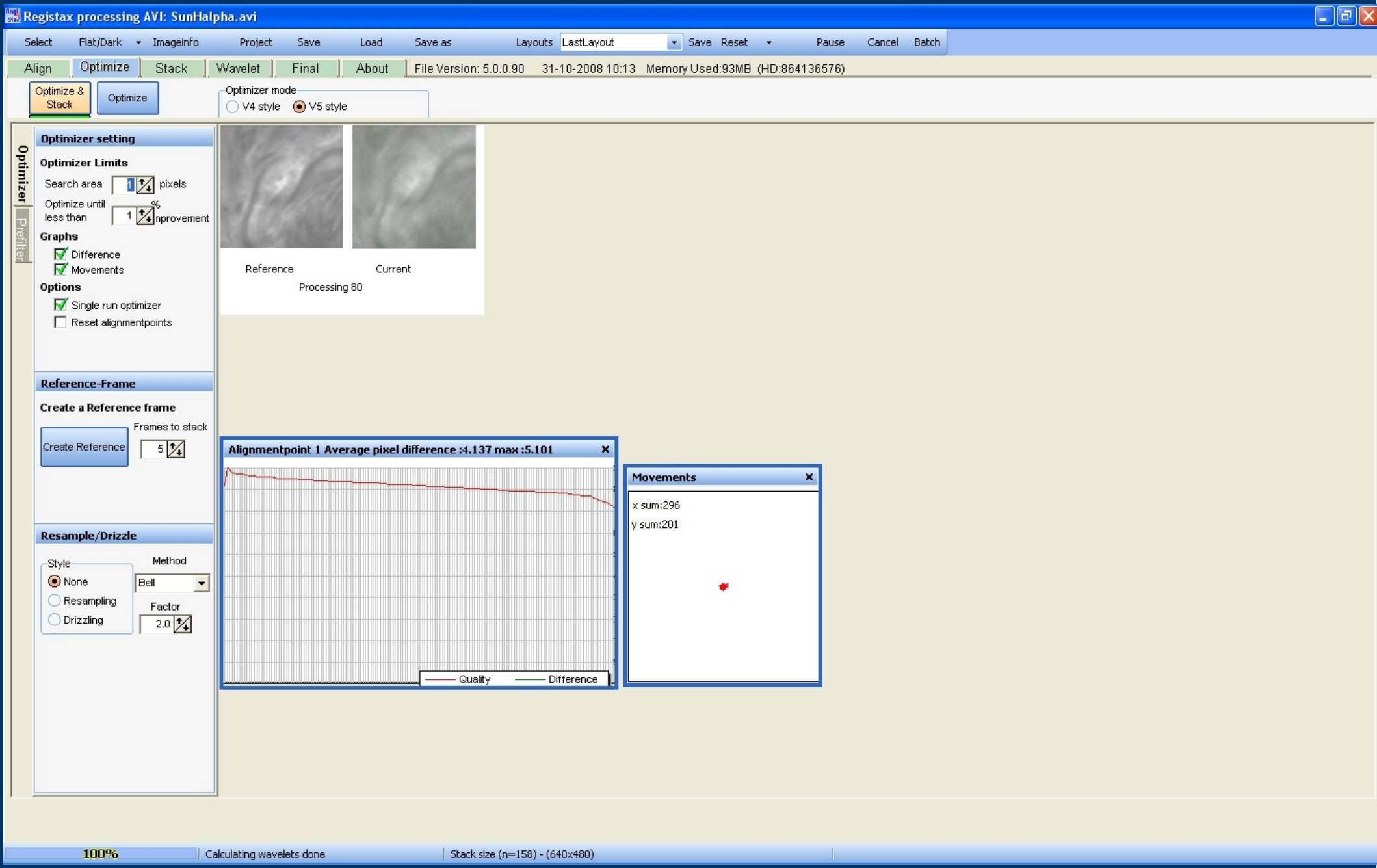
After wavelets, re-alignement ...



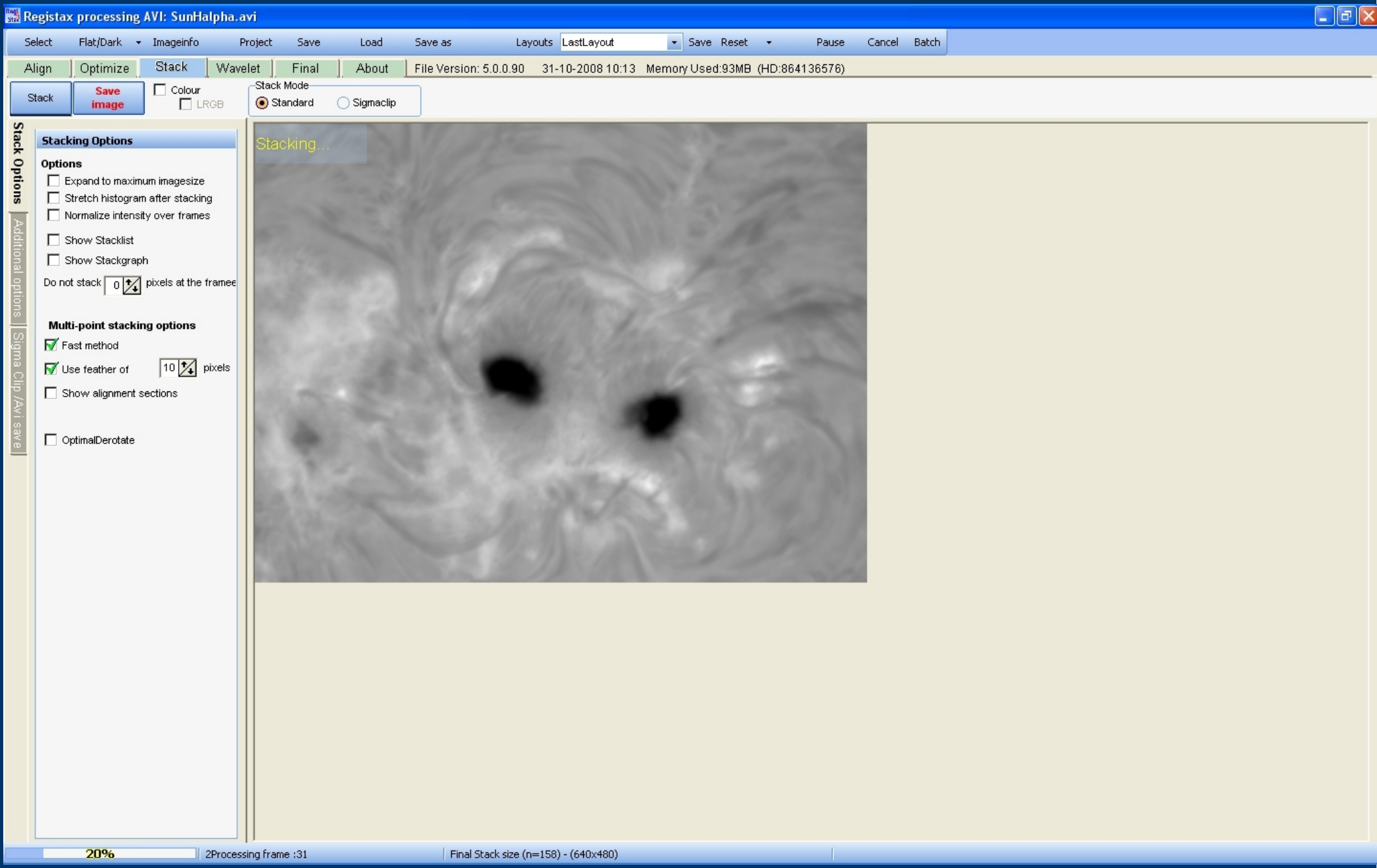
Realignement ...



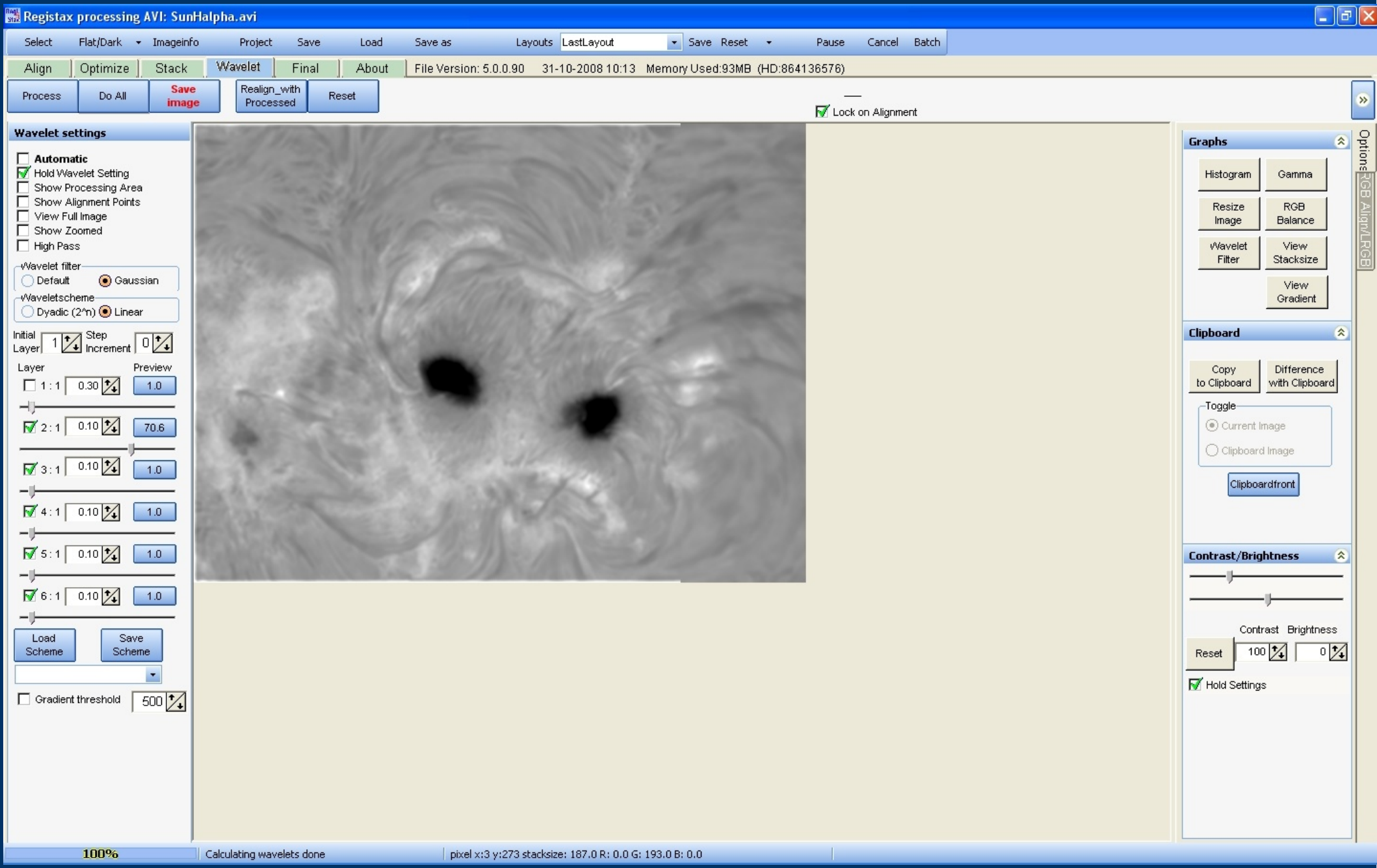
Optimisation ...



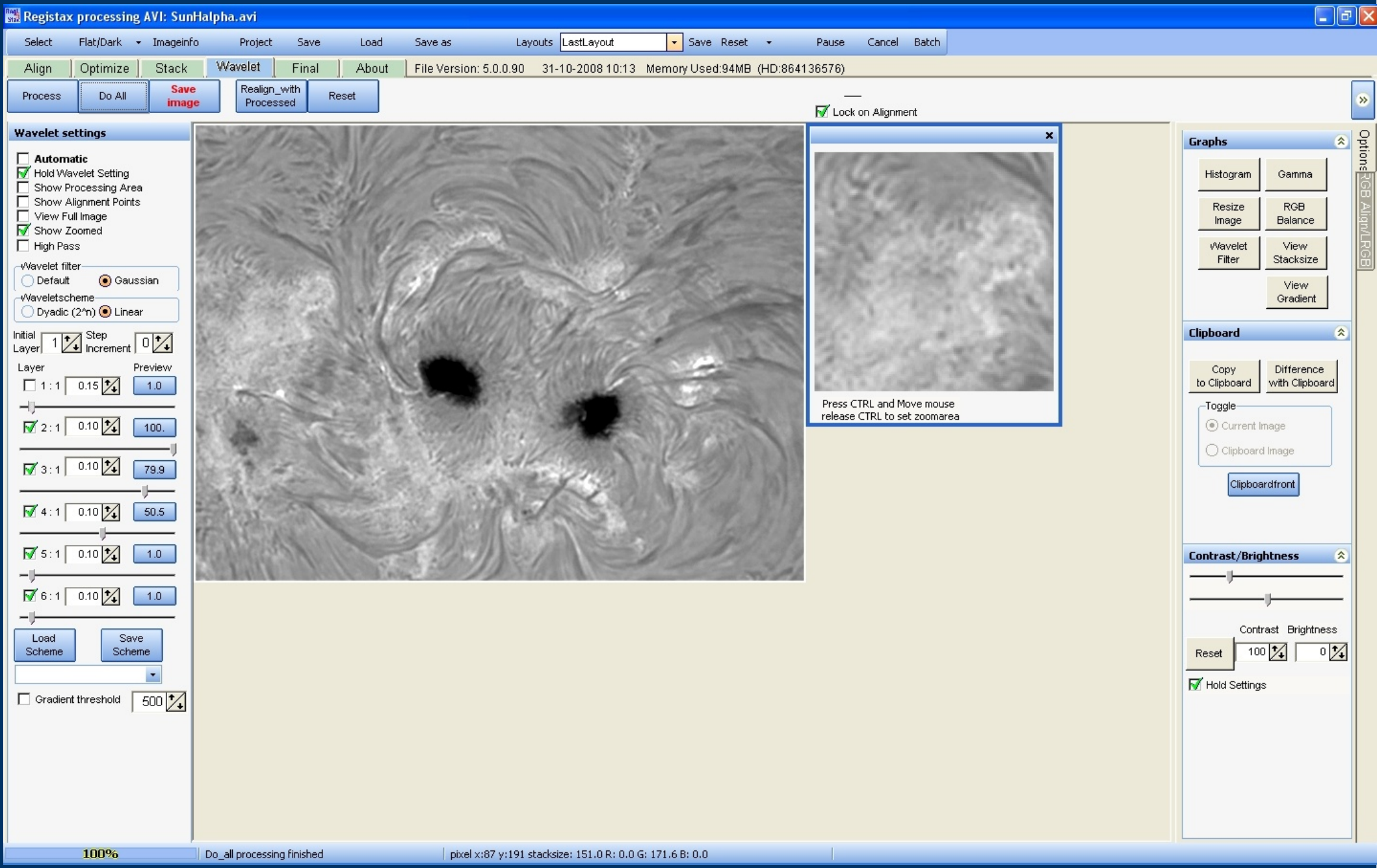
Stack ...


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
LRGB
Stack Mode
Standard
Sigmaclip
Stack Options
Additional options
Sigma Clip /Avi save
Stacking Options
Options
Expand to maximum imagesize
Stretch histogram after stacking
Normalize intensity over frames
Show Stacklist
Show Stackgraph
Do not stack
0
pixels at the framee
Multi-point stacking options
Fast method
Use feather of
10
pixels
Show alignment sections
OptimalDerotate
Stacking...
20%
2Processing frame :31
Final Stack size (n=158) - (640x480)

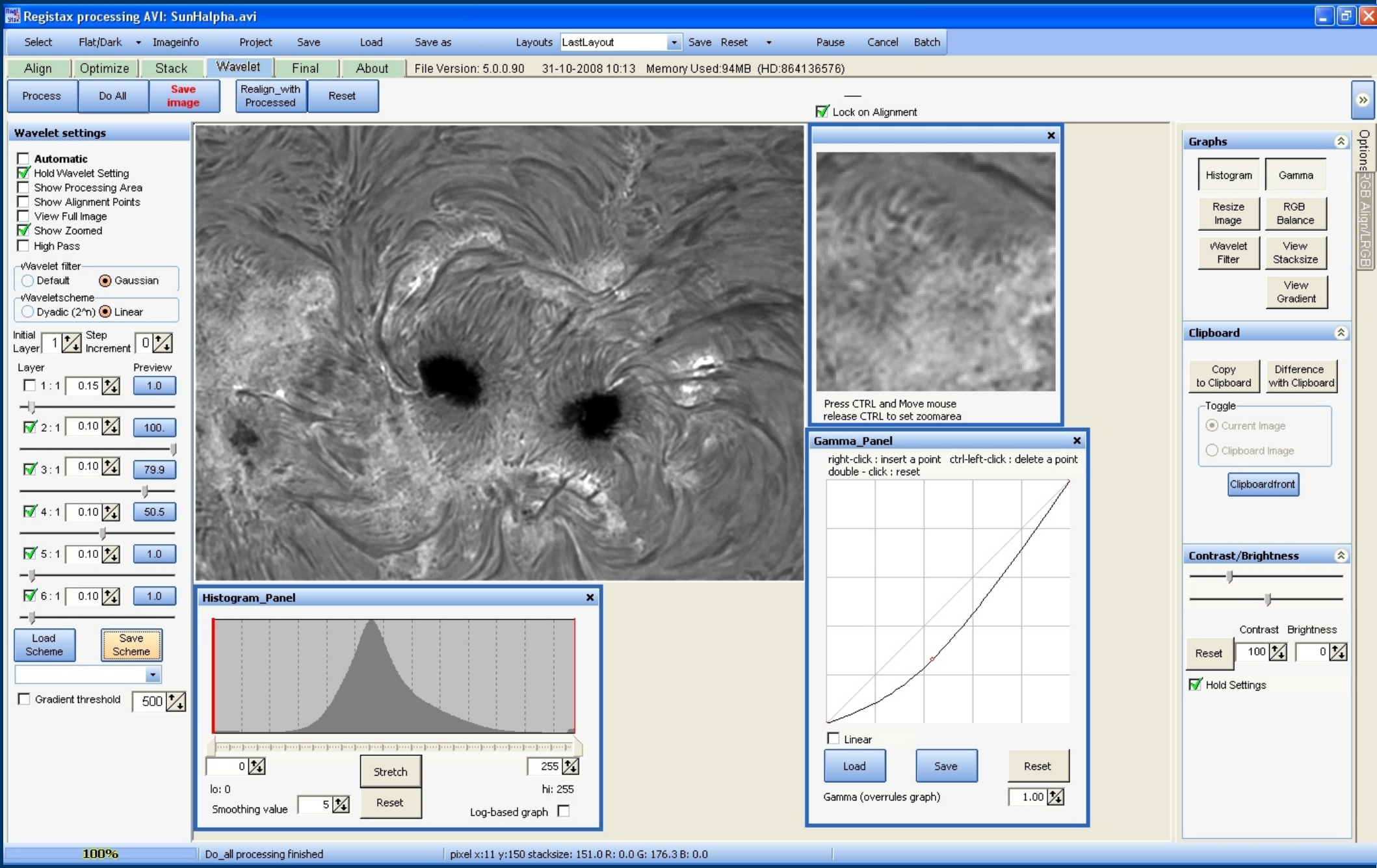
Wavelets


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
Step Increment
Layer
Preview
1 : 1
2 : 1
3 : 1
4 : 1
5 : 1
6 : 1
Load Scheme
Save Scheme
Gradient threshold
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
Hold Settings
Options
RGB Align/LRGB
100%
Calculating wavelets done
pixel x:3 y:273 stacksize: 187.0 R: 0.0 G: 193.0 B: 0.0

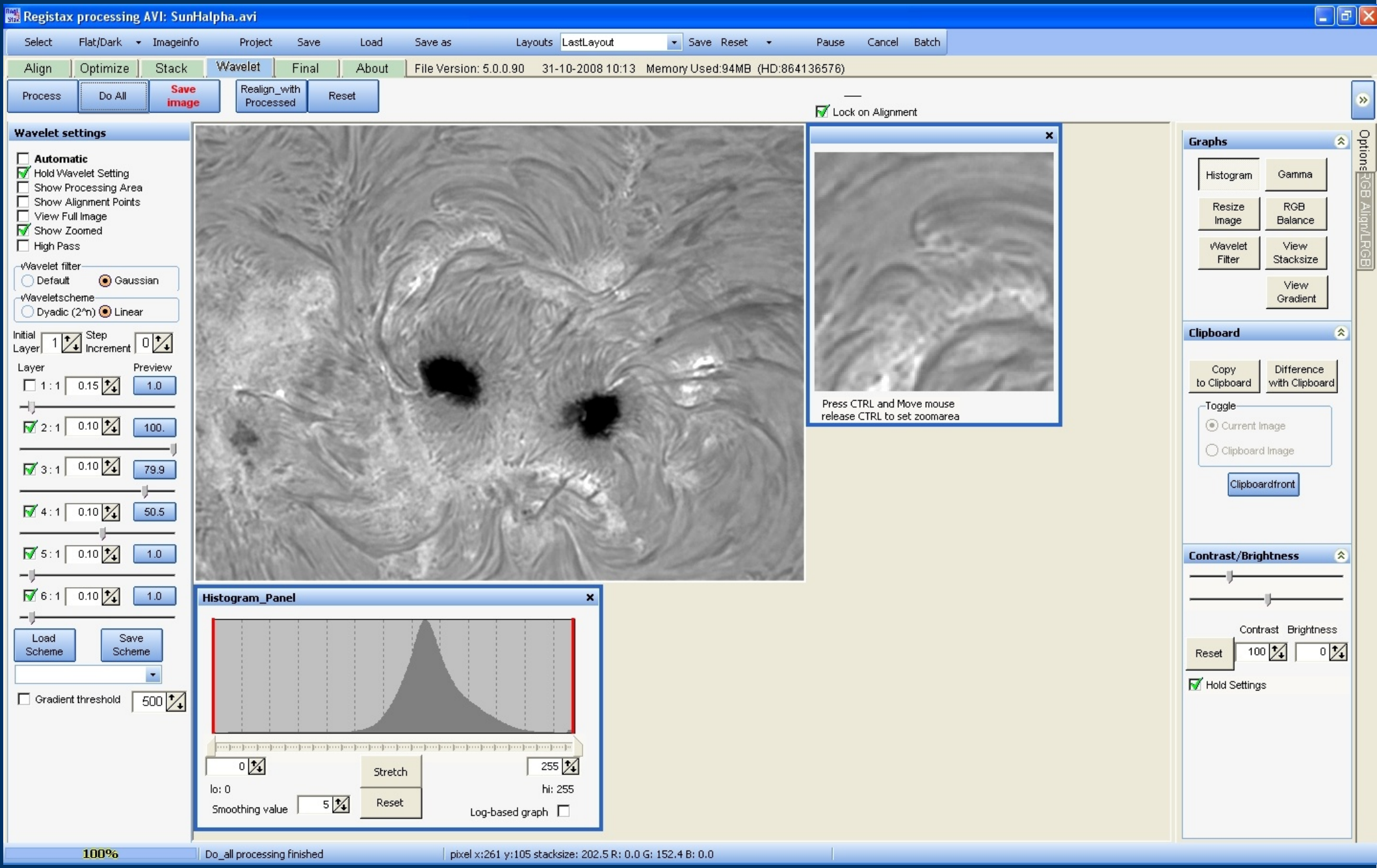
Wavelets and noise trapping ...



Saving of Wv params ...



Histogramm ...


Registax processing AVI: SunHalpha.avi
Select
Flat/Dark
Imageinfo
Project
Save
Load
Save as
Layouts
LastLayout
Save
Reset
Pause
Cancel
Batch
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Optimize
Stack
Wavelet
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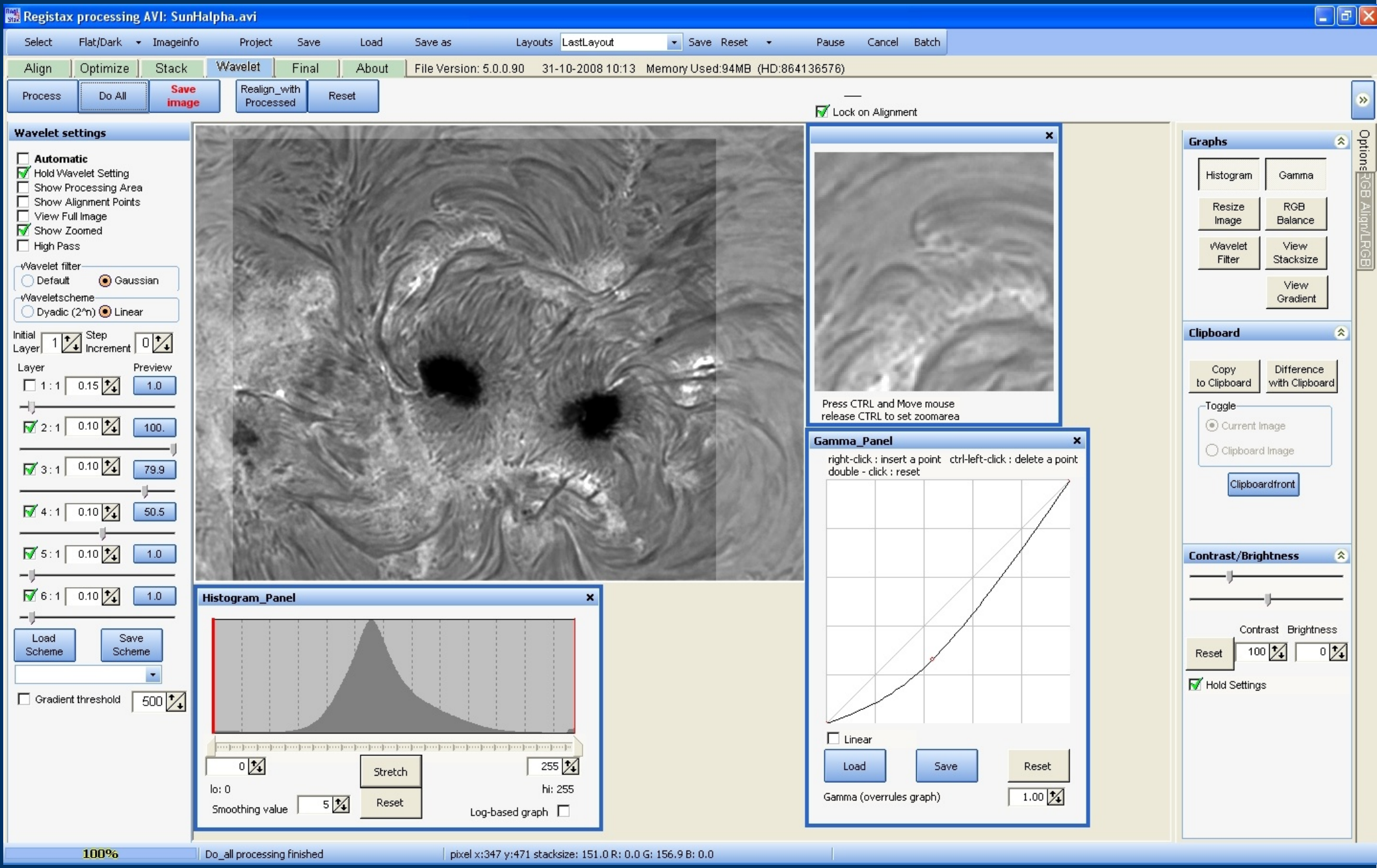
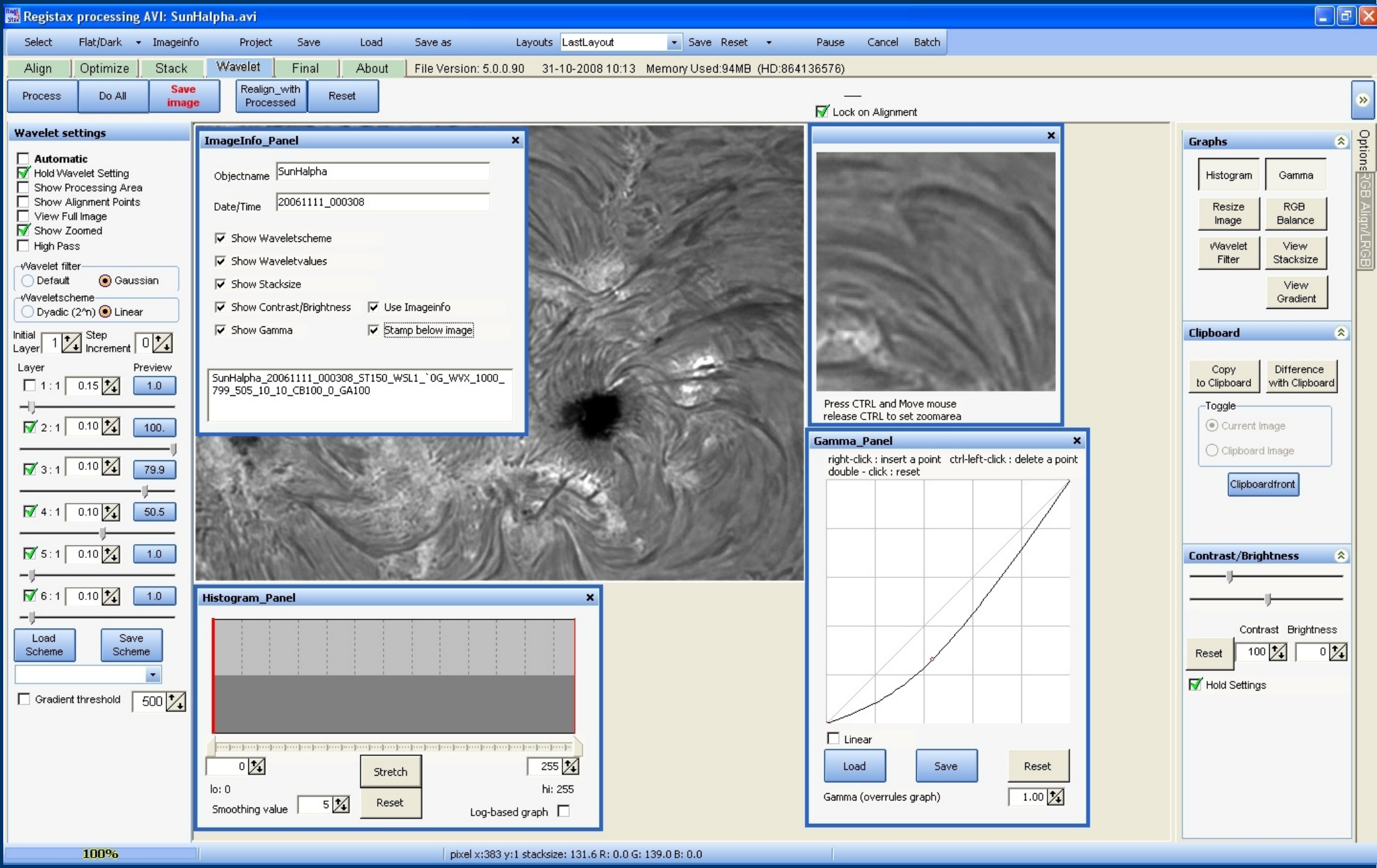
File Version: 5.0.0.90
31-10-2008 10:13
Memory Used:94MB (HD:864136576)
Process
Do All
Save image
Realign_with Processed
Reset
Lock on Alignment
Wavelet settings
Automatic
Hold Wavelet Setting
Show Processing Area
Show Alignment Points
View Full Image
Show Zoomed
High Pass
Wavelet filter
Default
Gaussian
Waveletscheme
Dyadic (2^n)
Linear
Initial Layer
Step Increment
Layer
Preview
1 : 1
2 : 1
3 : 1
4 : 1
5 : 1
6 : 1
Load Scheme
Save Scheme
Gradient threshold
Press CTRL and Move mouse
release CTRL to set zoomarea
Histogram_Panel
Stretch
Reset
lo: 0
hi: 255
Smoothing value
Log-based graph
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
Hold Settings
Options
RGB Align/LRGB
100%
Do_all processing finished
pixel x:261 y:105 stacksize: 202.5 R: 0.0 G: 152.4 B: 0.0

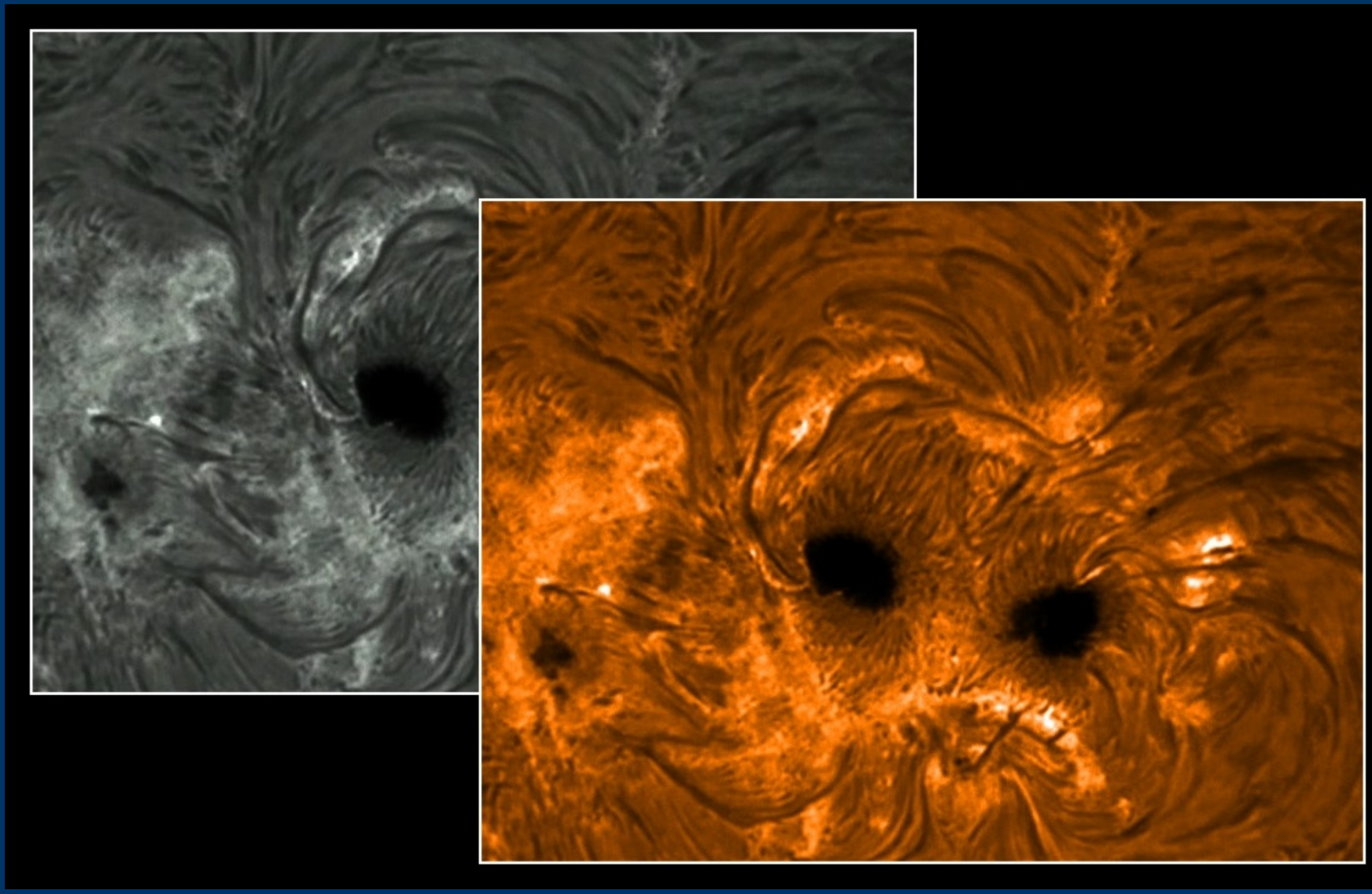
Gamma ...


Registax processing AVI: 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: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
Step Increment
Layer
Preview
Load Scheme
Save Scheme
Gradient threshold
Press CTRL and Move mouse
release CTRL to set zoomarea
Gamma_Panel
right-click : insert a point
ctrl-left-click : delete a point
double - click : reset
Linear
Load
Save
Reset
Gamma (overrules graph)
Histogram_Panel
Stretch
Reset
lo: 0
hi: 255
Smoothing value
Log-based graph
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
Hold Settings
Options
RGB Align/LRGB
100%
Do_all processing finished
pixel x:347 y:471 stacksize: 151.0 R: 0.0 G: 156.9 B: 0.0

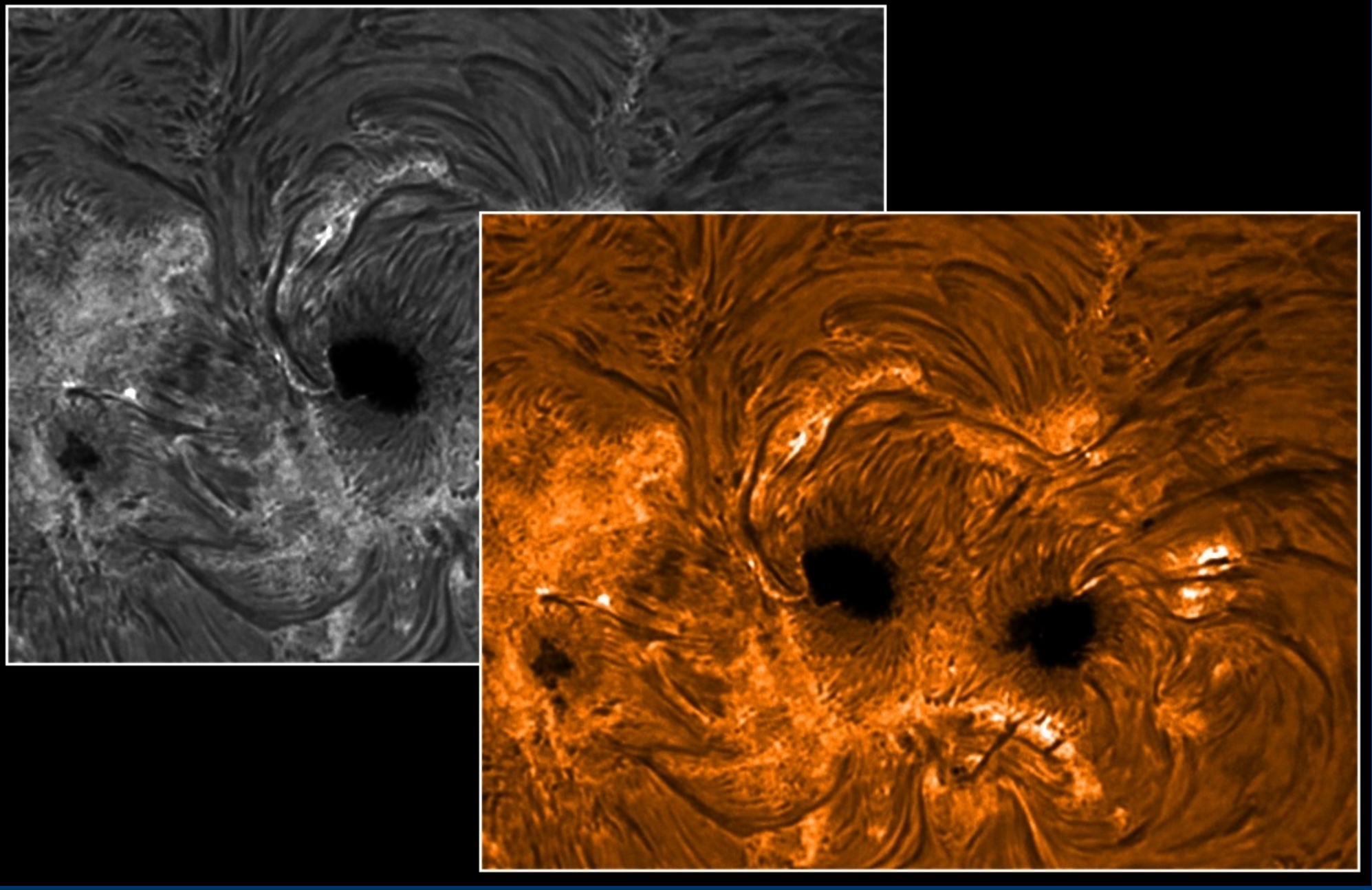
Informations saved in name of file...



This was with 1 AP...



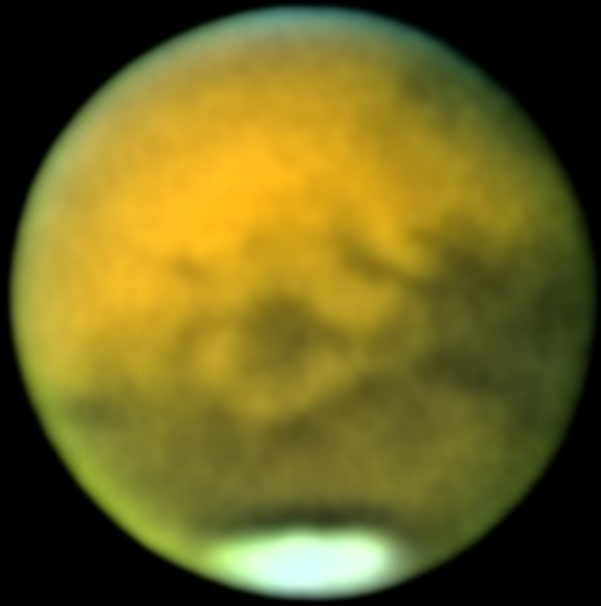
This is with Matrix use !



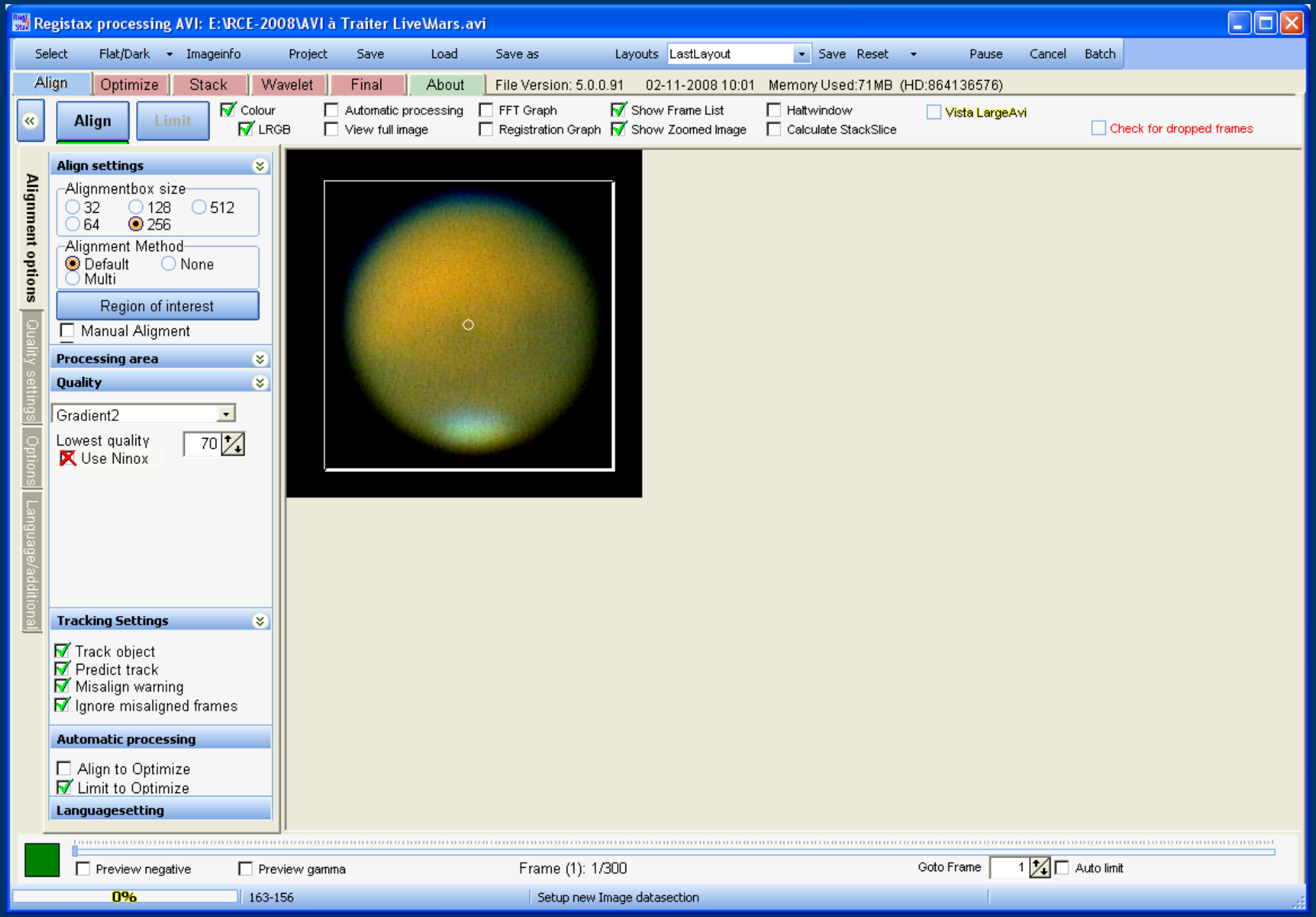
Advanced processing 2

Mars in color (2003)

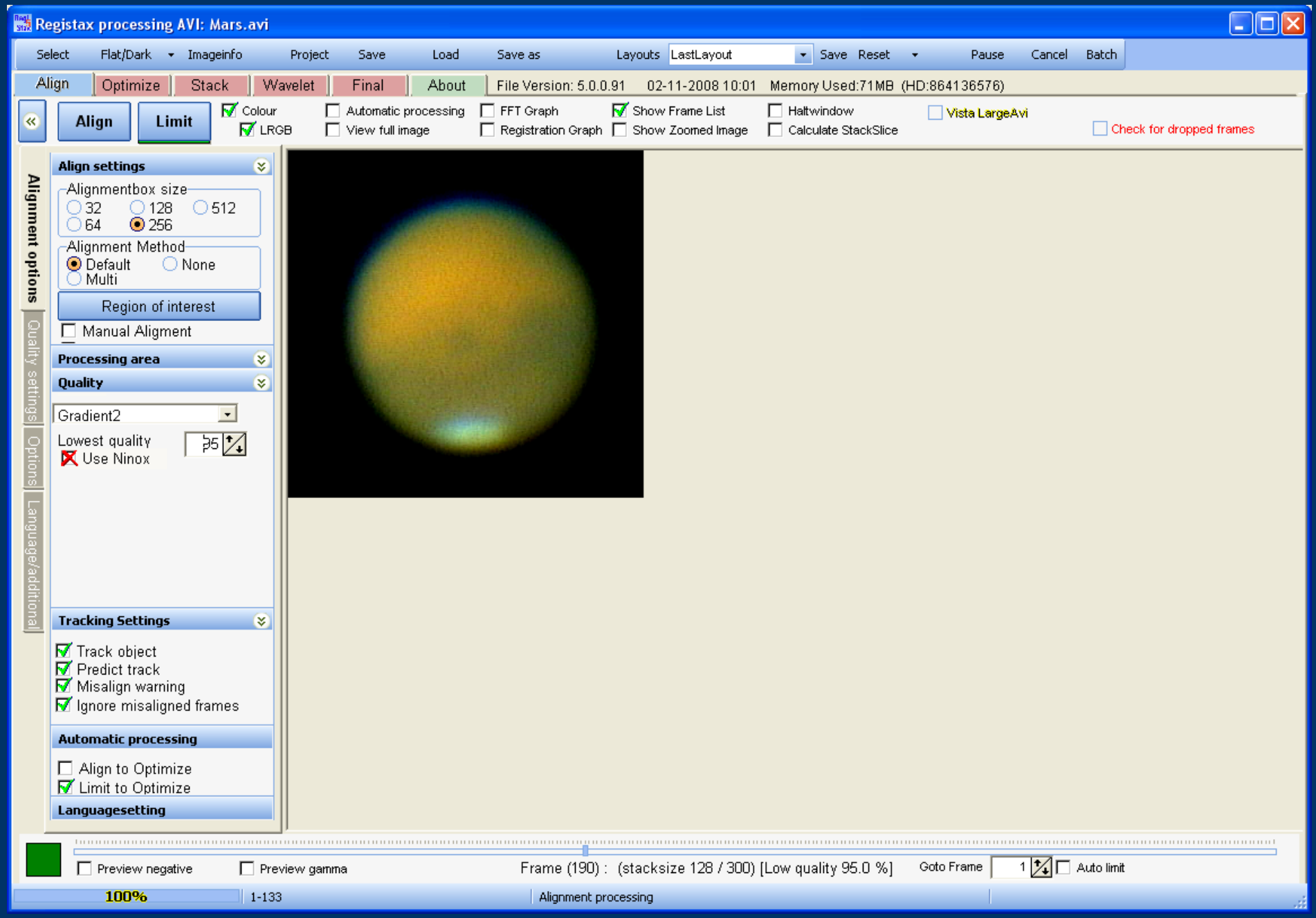
Mars



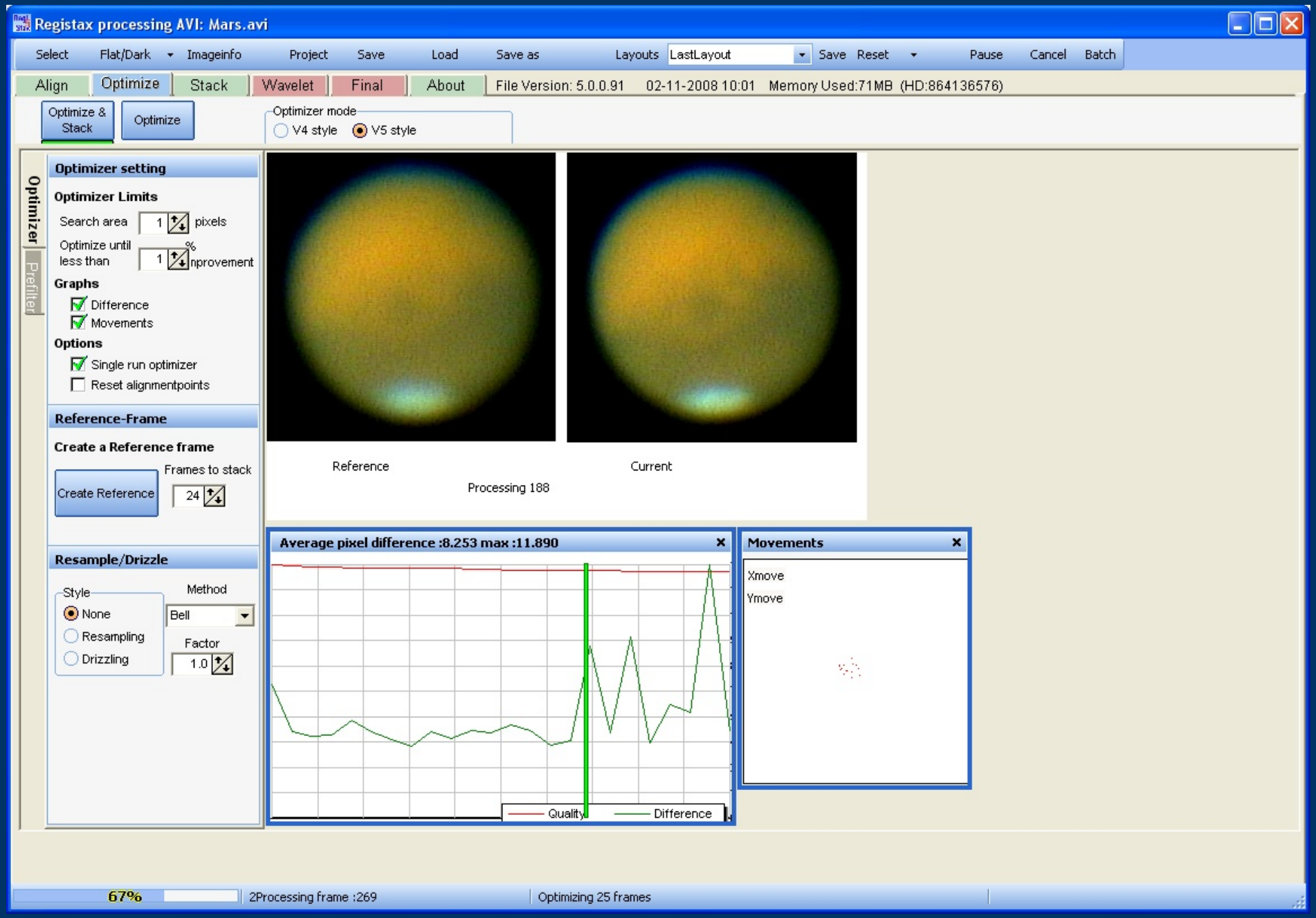
AVI loaded, quality, alignement, LRGB ...



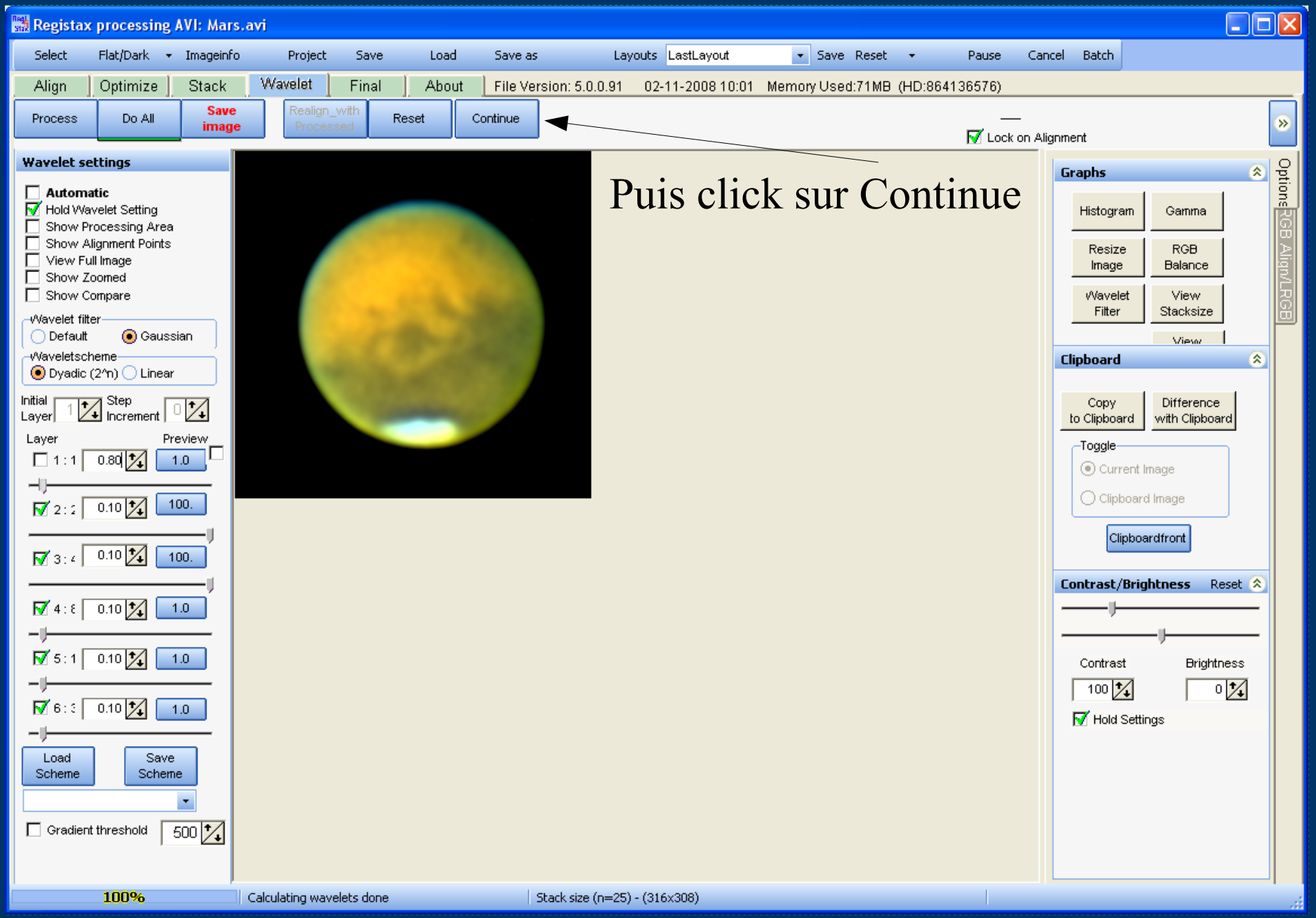
Limit 95%


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
LRGB
Automatic processing
View full image
FFT Graph
Registration Graph
Show Frame List
Show Zoomed Image
Haltwindow
Calculate StackSlice
Vista LargeAvi
Check for dropped frames
Alignment options
Quality settings
Options
Language/additional
Align settings
Alignmentbox size
32
64
128
256
512
Alignment Method
Default
Multi
None
Region of interest
Manual Aligment
Processing area
Quality
Gradient2
Lowest quality
Use Ninox
95
Tracking Settings
Track object
Predict track
Misalign warning
Ignore misaligned frames
Automatic processing
Align to Optimize
Limit to Optimize
Languagesetting
Preview negative
Preview gamma
Frame (190) : (stacksize 128 / 300) [Low quality 95.0 %]
Goto Frame
1
Auto limit
100%
1-133
Alignment processing

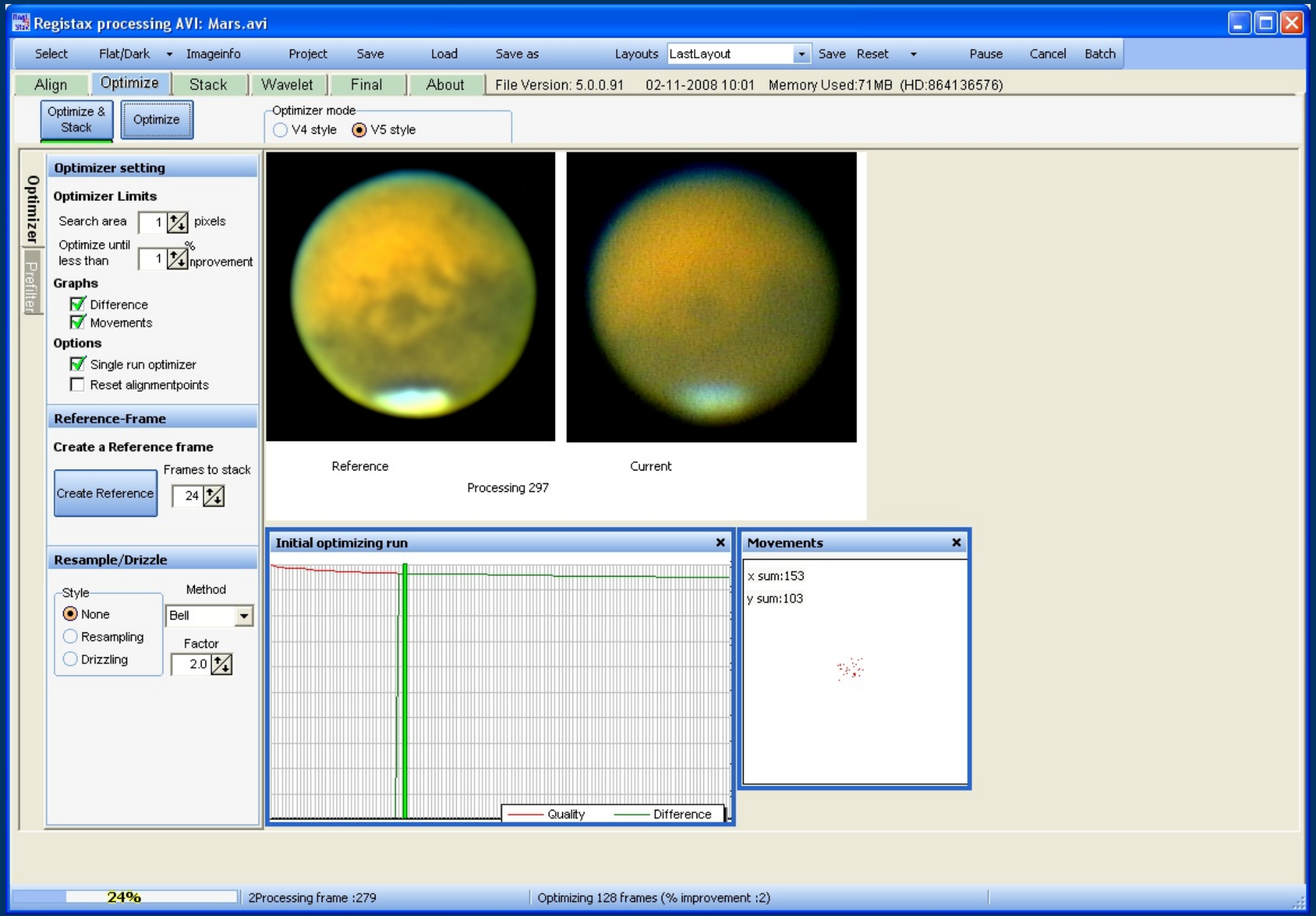
Create reference image...



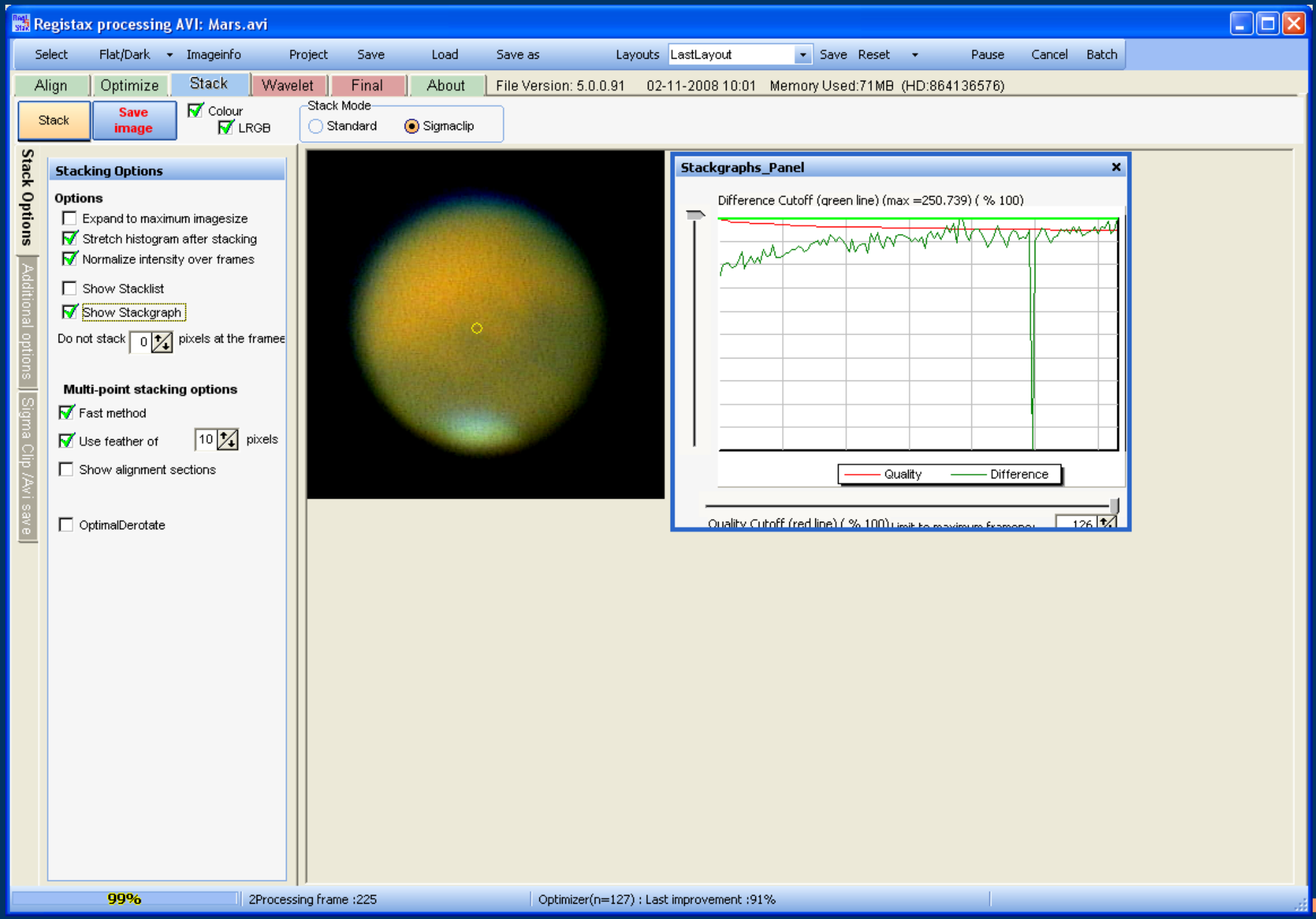
Wavelet on reference image & full noise suppression...



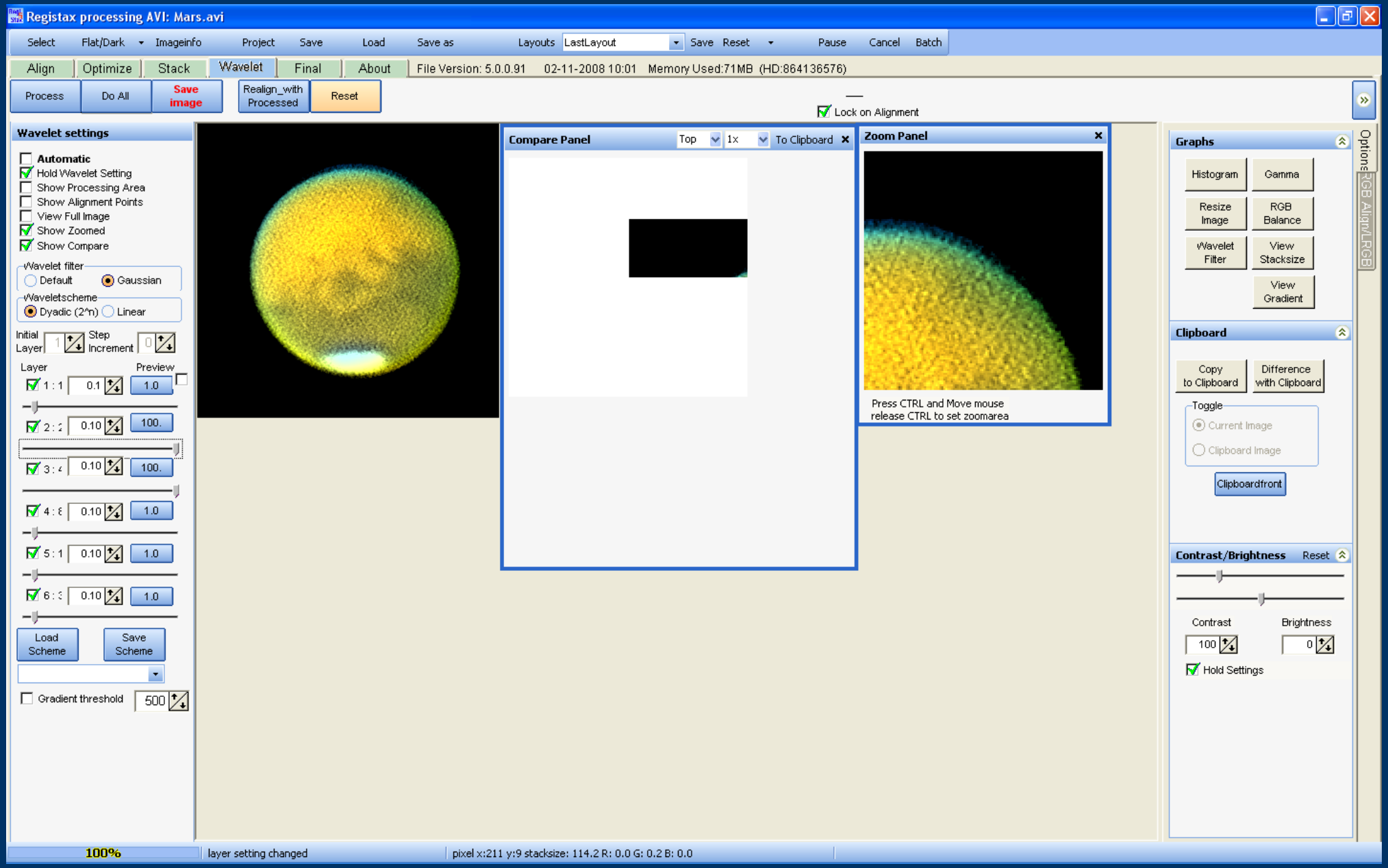
Optimization ...



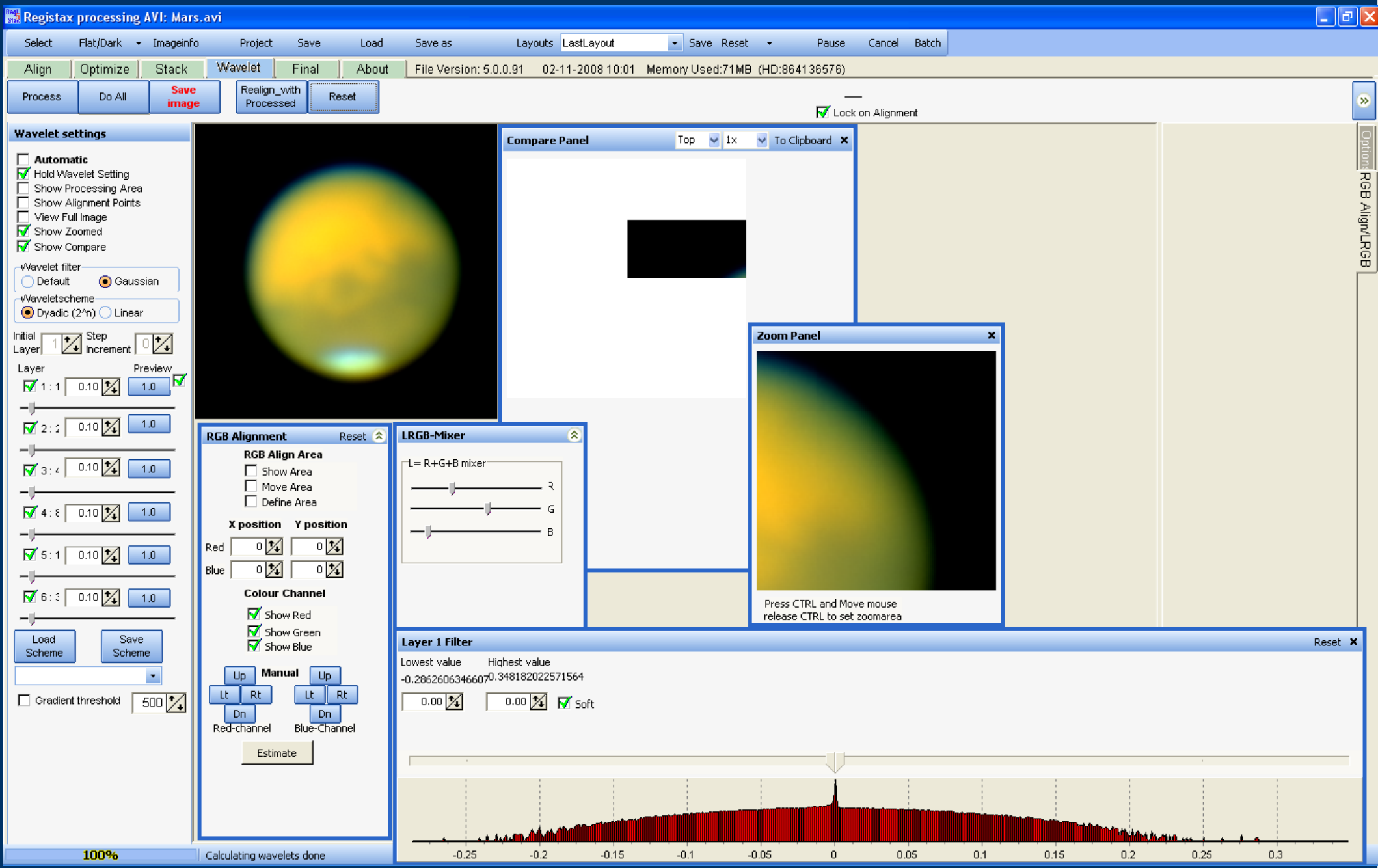
Stack Sigmaclip...



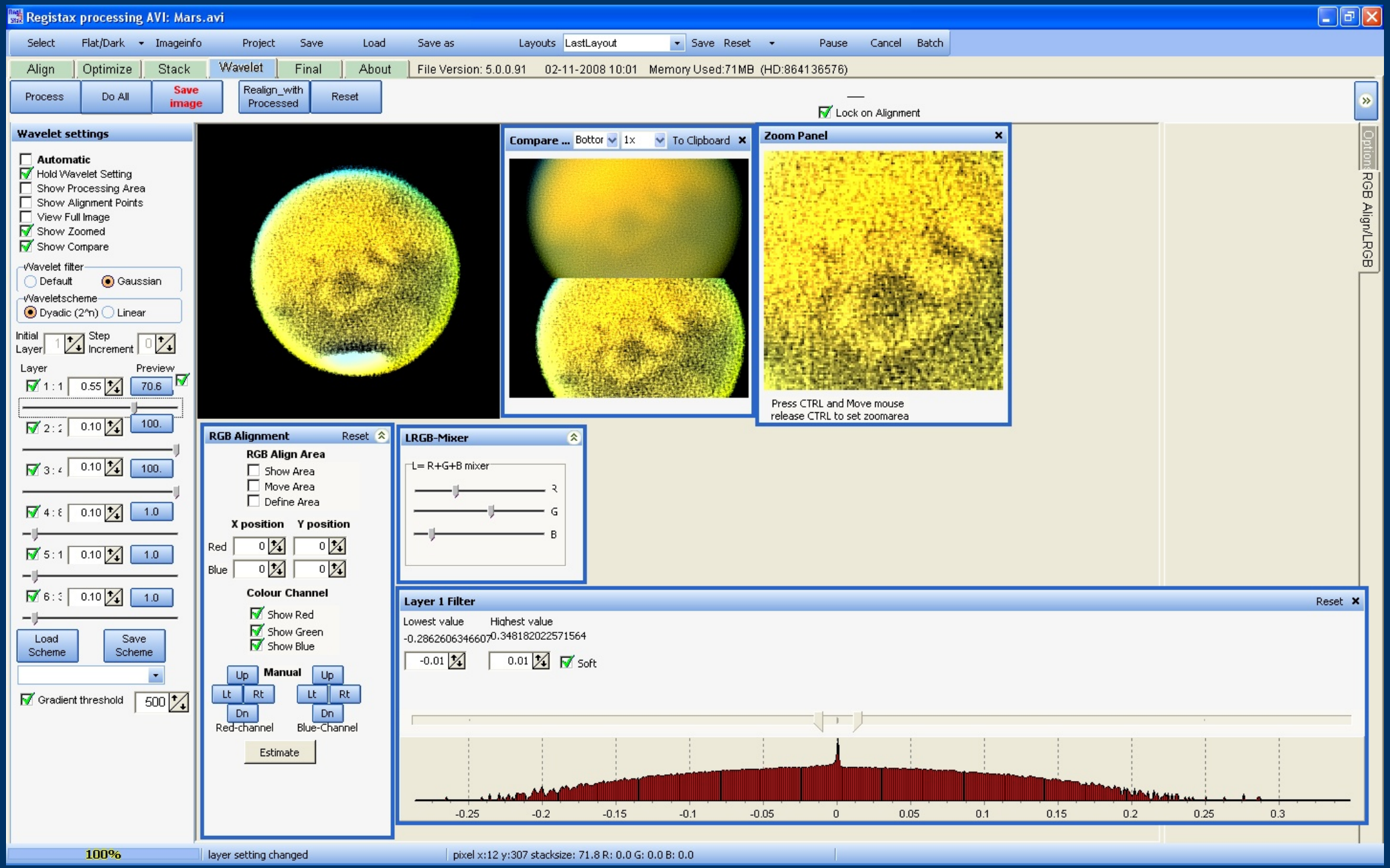
Wv page, reset ...



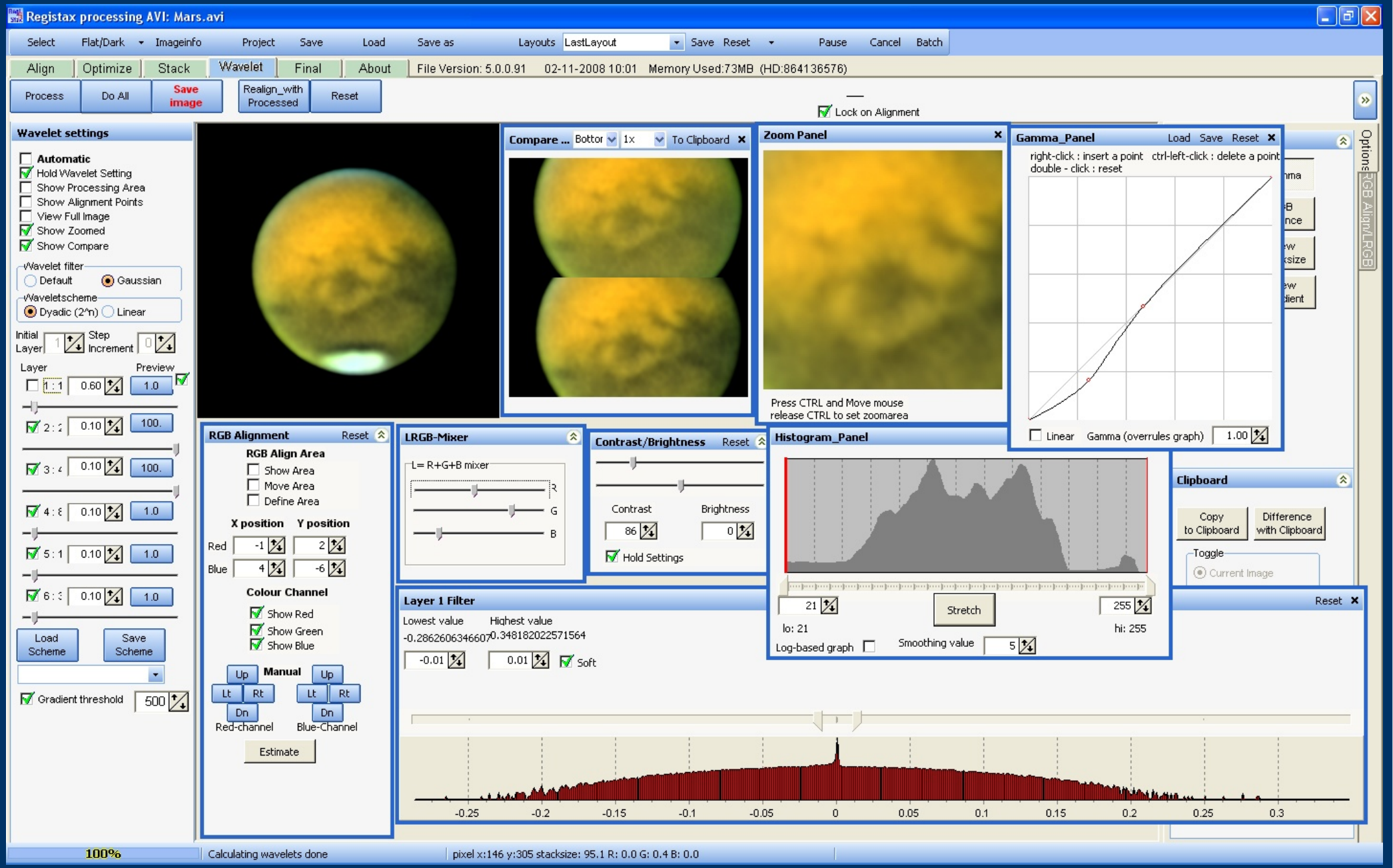
Positioning tools...



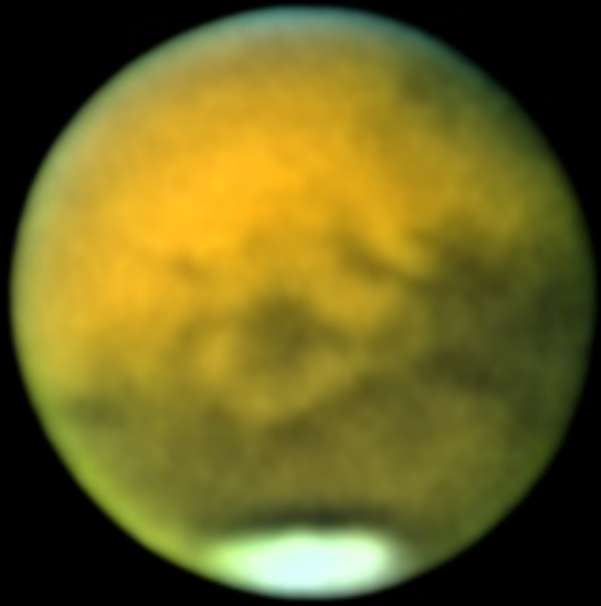
Comparo, Zoom, noise filters ...



Complex but working well !



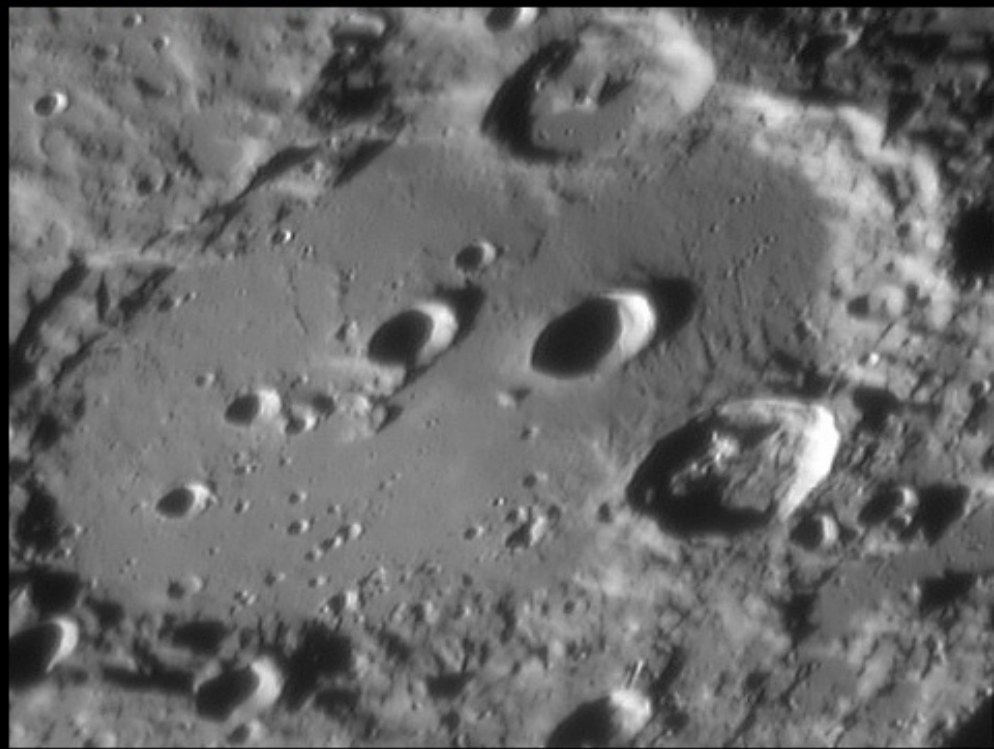
Mars



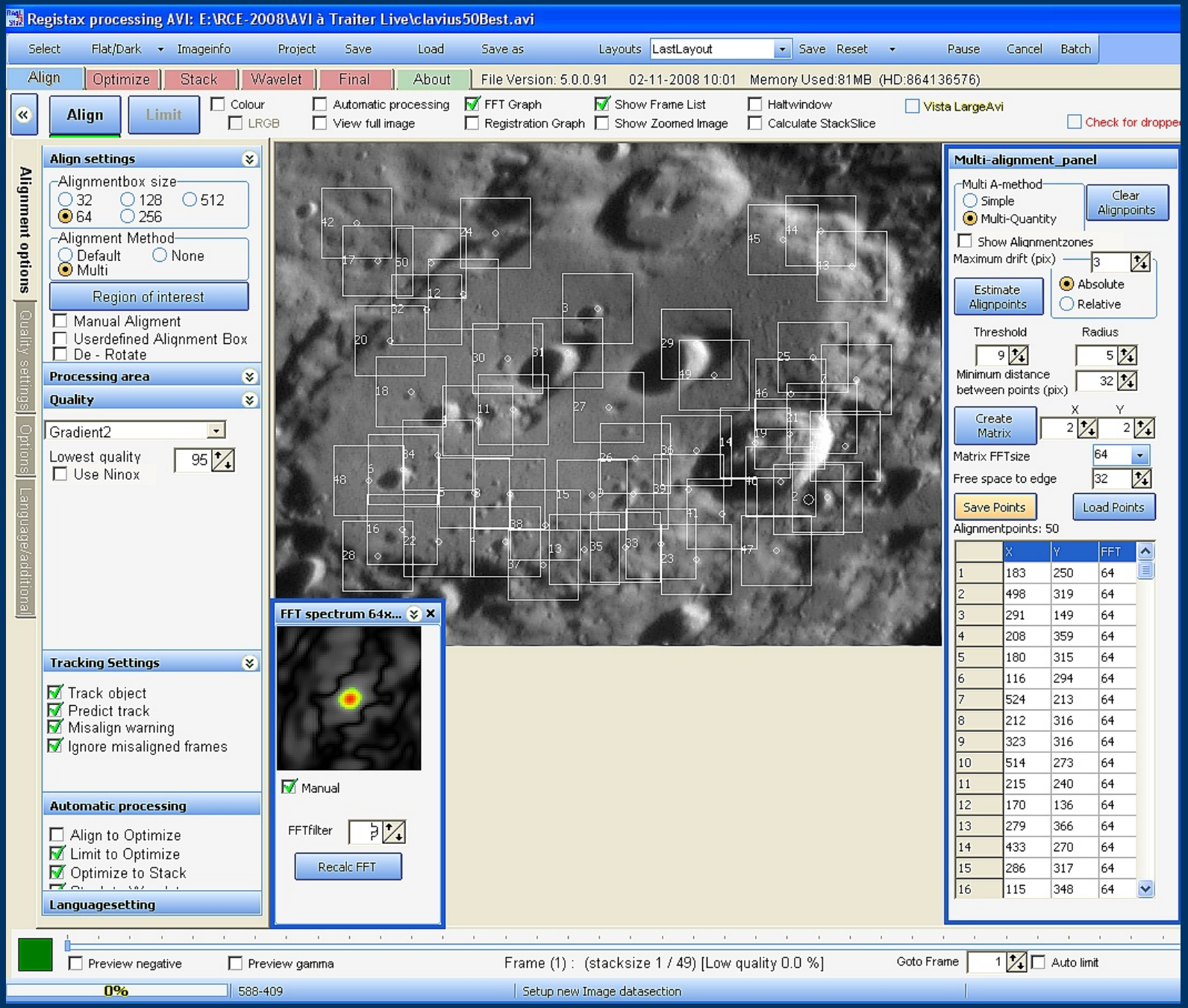
Advanced processing (3)

Clavius B&W hires

Lune : Clavius

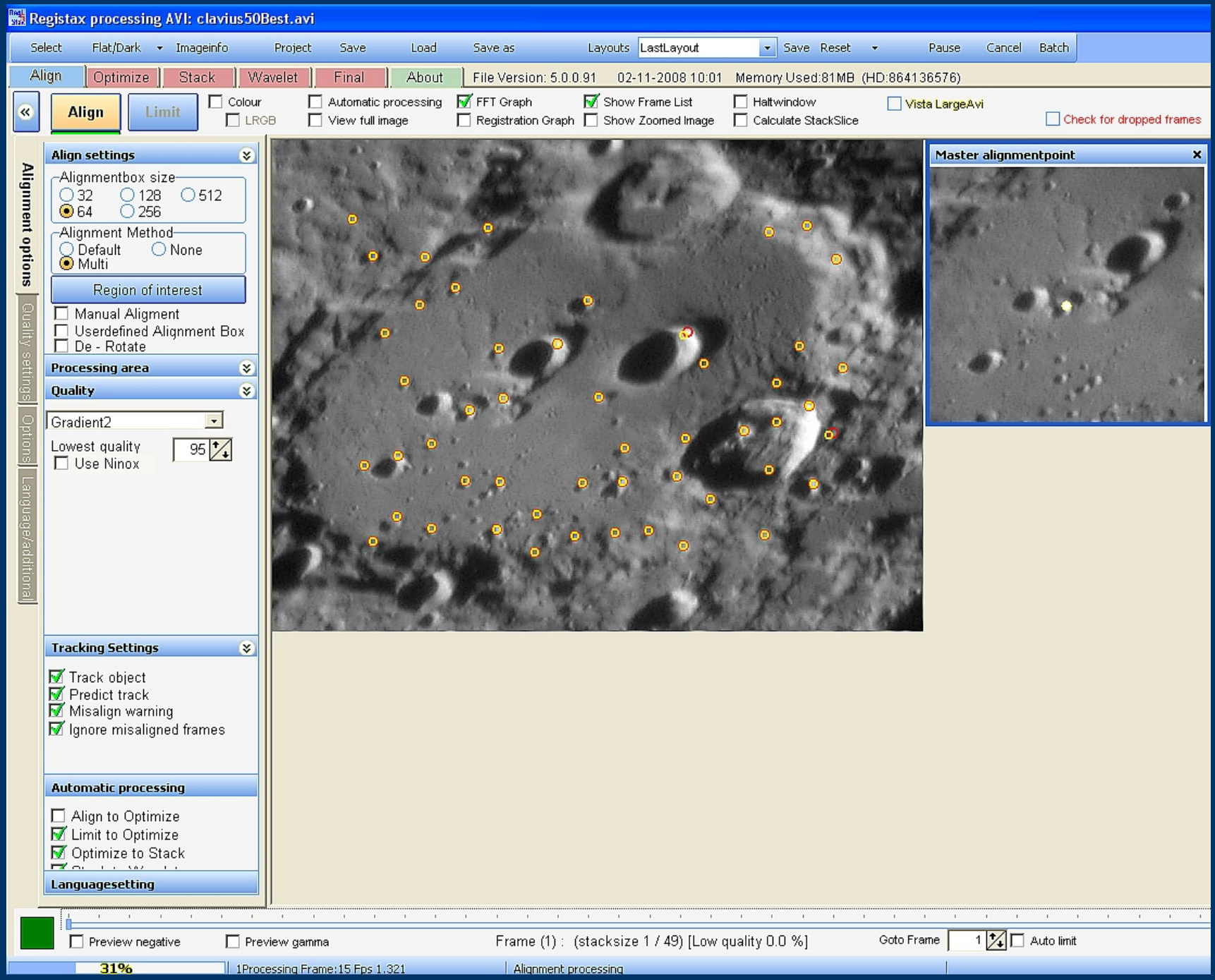


Quality, FFT, max moves & AP estimation / saving ...

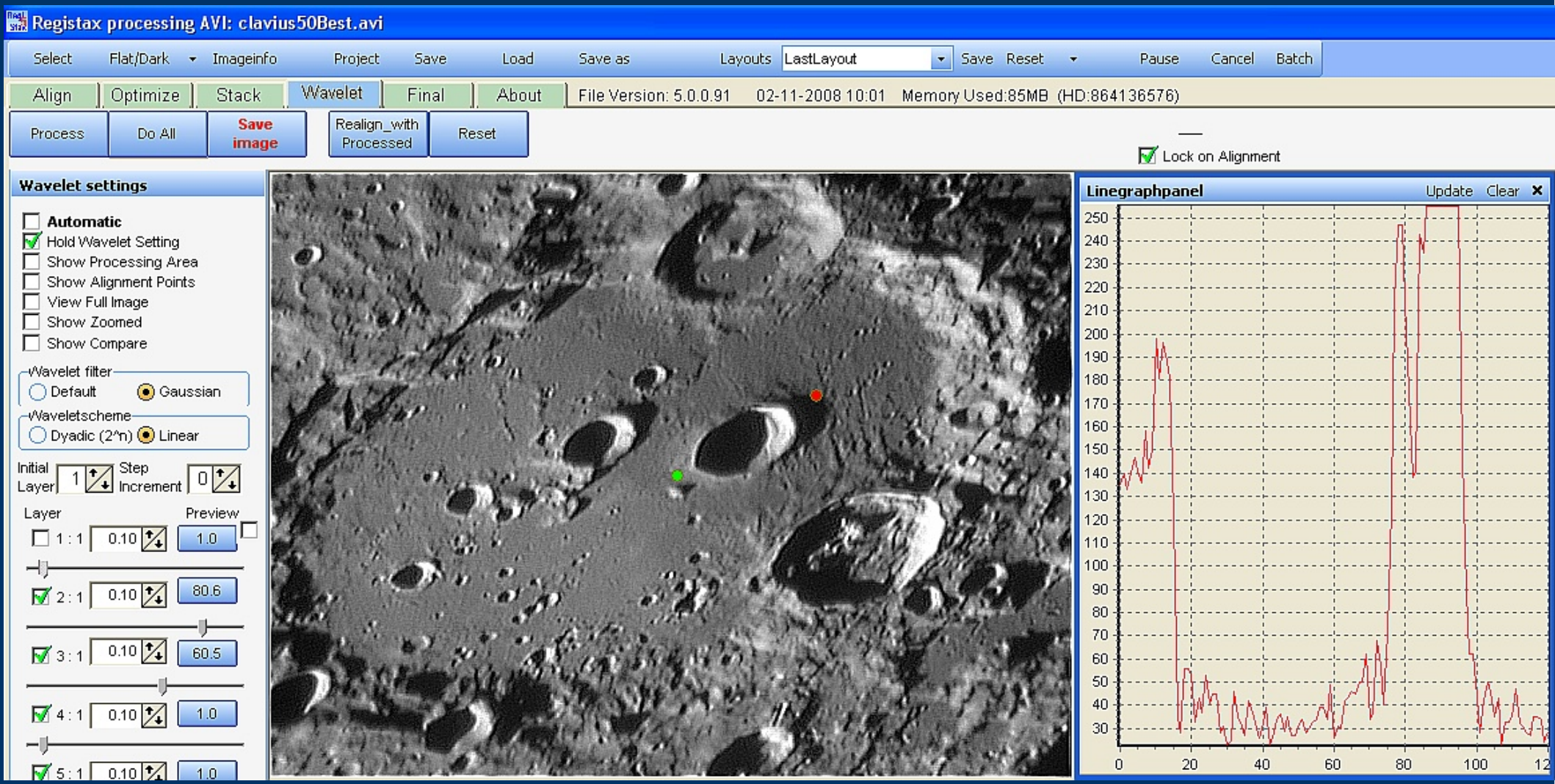


	X	Y	FFT
1	183	250	64
2	498	319	64
3	291	149	64
4	208	359	64
5	180	315	64
6	116	294	64
7	524	213	64
8	212	316	64
9	323	316	64
10	514	273	64
11	215	240	64
12	170	136	64
13	279	366	64
14	433	270	64
15	286	317	64
16	115	348	64

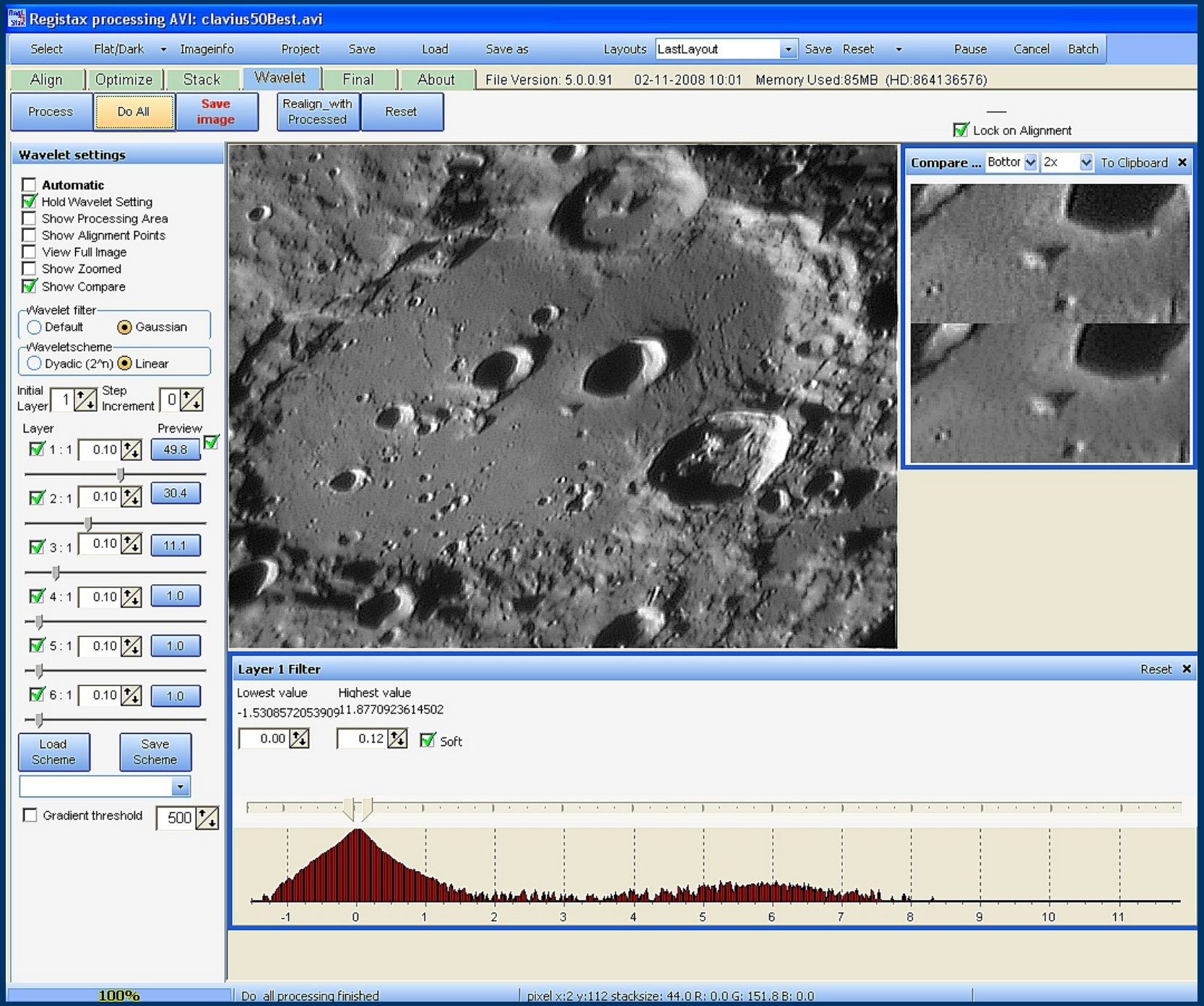
Alignement ...


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:81MB (HD:864136576)
Align
Limit
Colour
LRGB
Automatic processing
View full image
FFT Graph
Registration Graph
Show Frame List
Show Zoomed Image
Haltwindow
Calculate StackSlice
Vista LargeAvi
Check for dropped frames
Alignment options
Quality settings
Options
Language/additional
Align settings
Alignmentbox size
32
64
128
256
512
Alignment Method
Default
Multi
None
Region of interest
Manual Aligment
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
Languagesetting
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

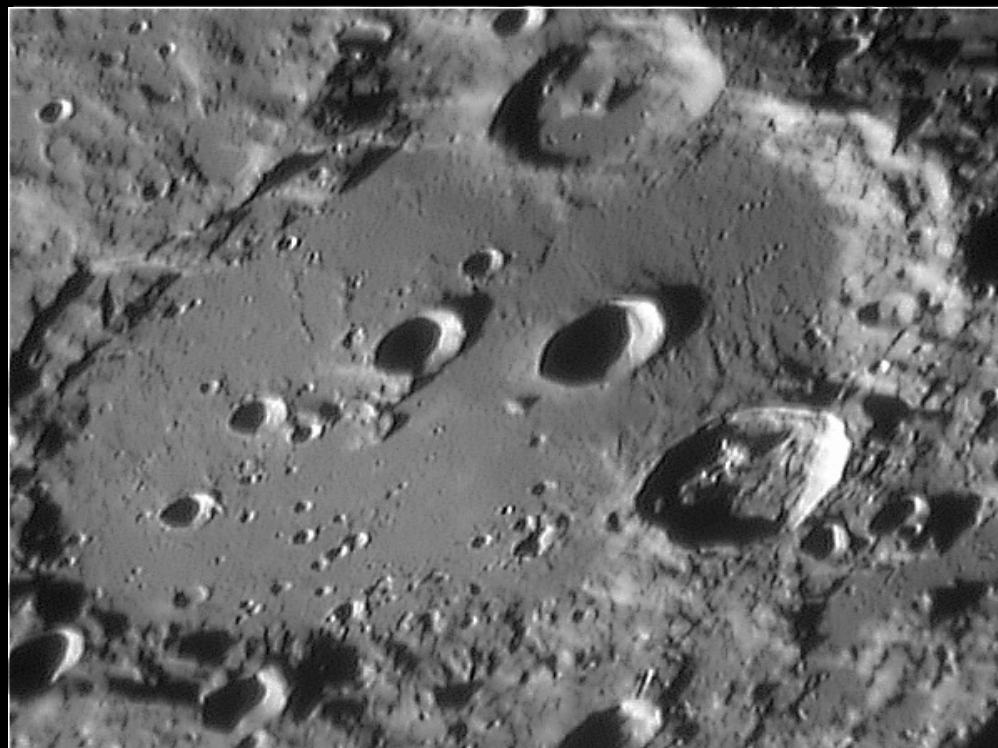
Profile ...


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
Step Increment
Layer
Preview
1 : 1
2 : 1
3 : 1
4 : 1
5 : 1
Linegraphpanel
Update
Clear

Noise reduction & use of « Comparo »...



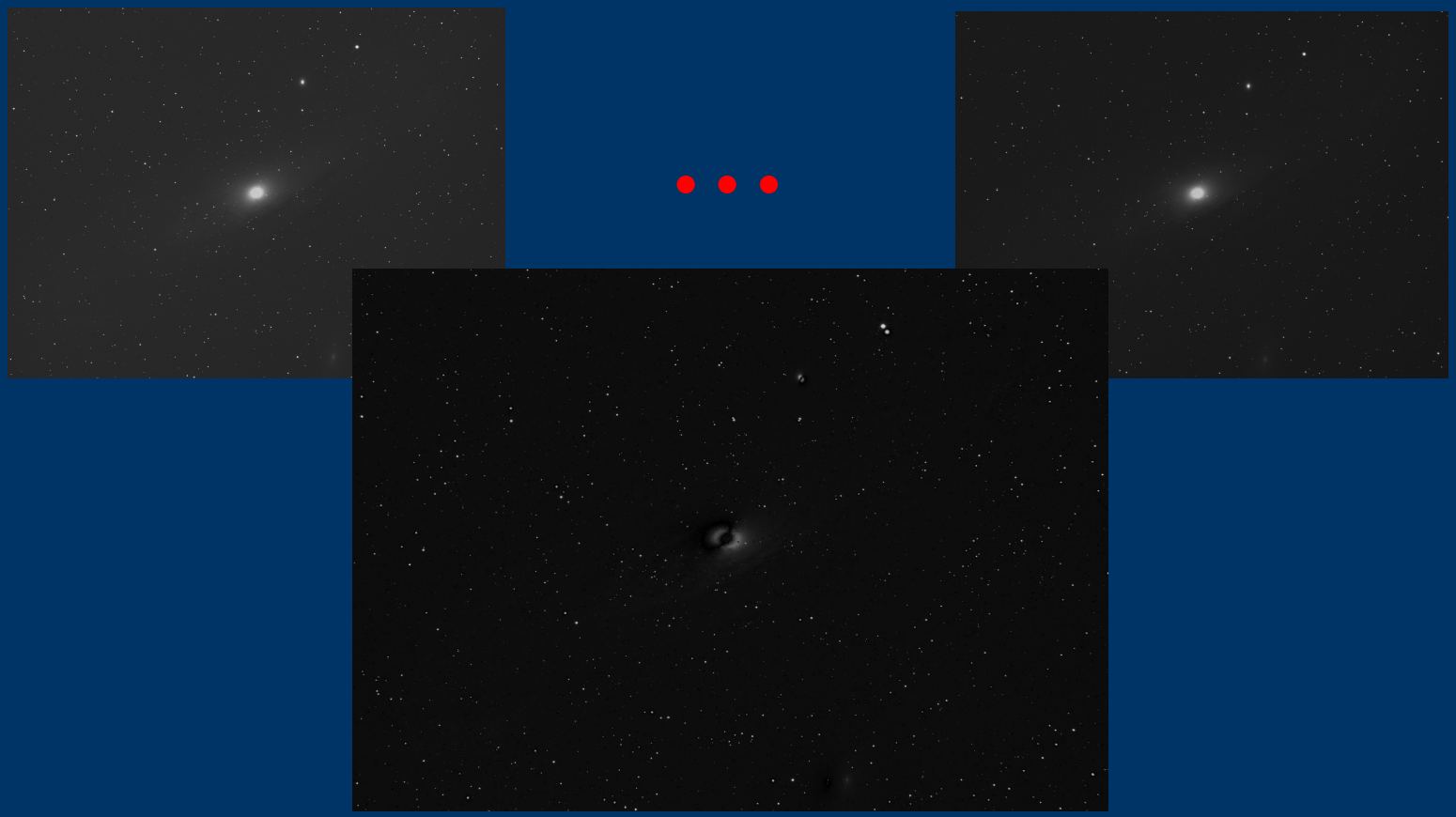
Lune : Clavius



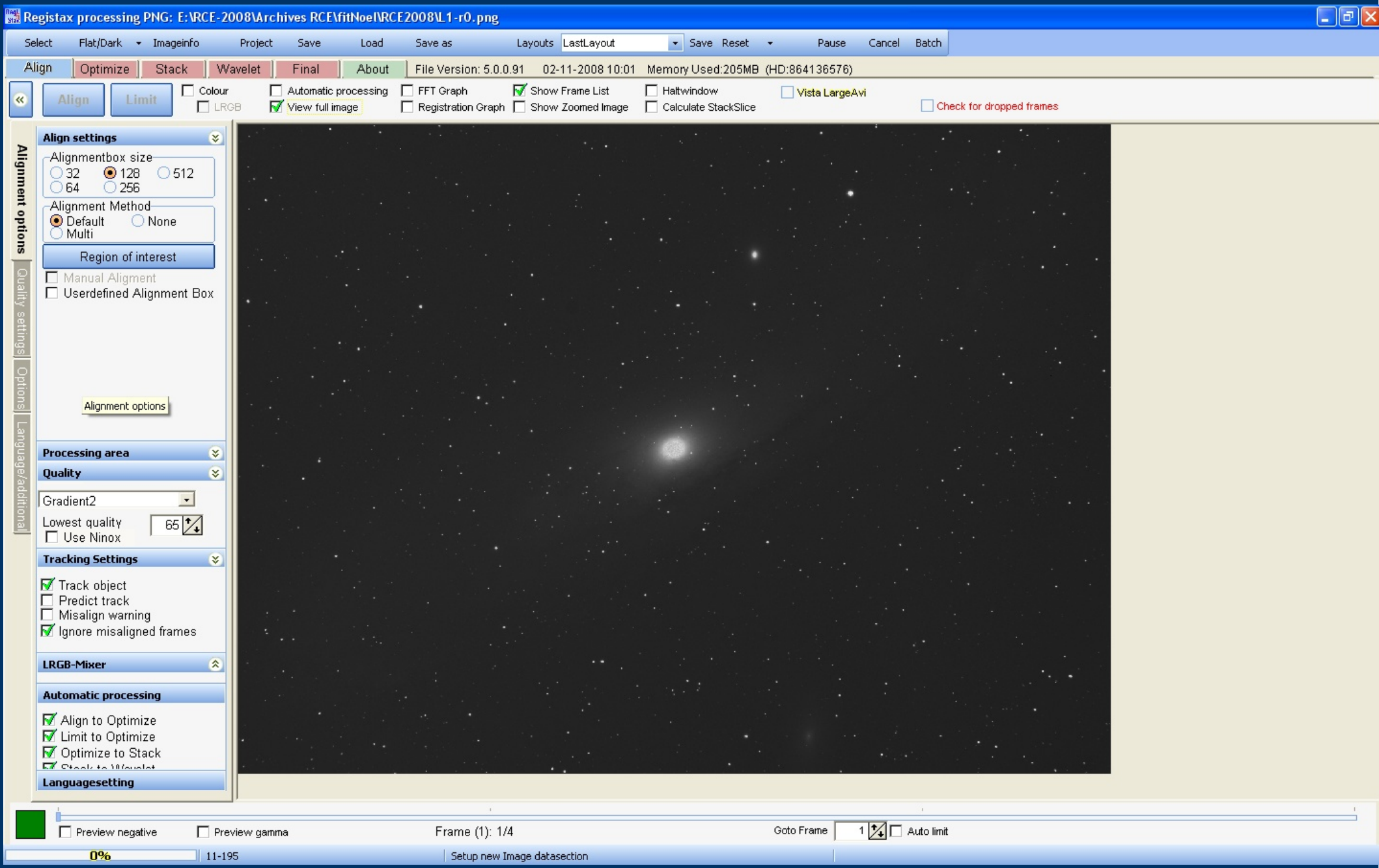
Advancced Processing (4)

Derotation of DSOs

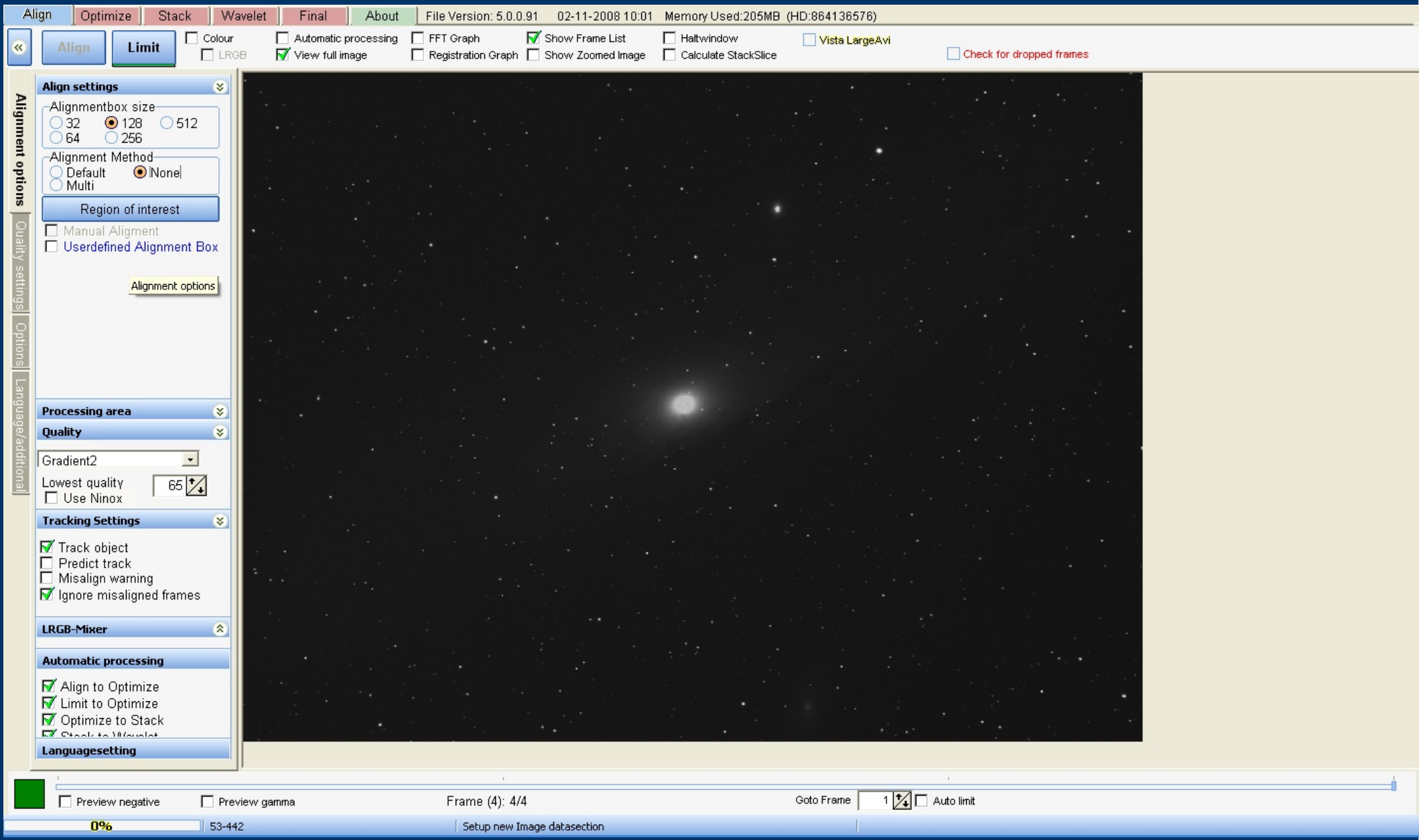
Image credit : Fabrice Noël



Demo : Loading ...

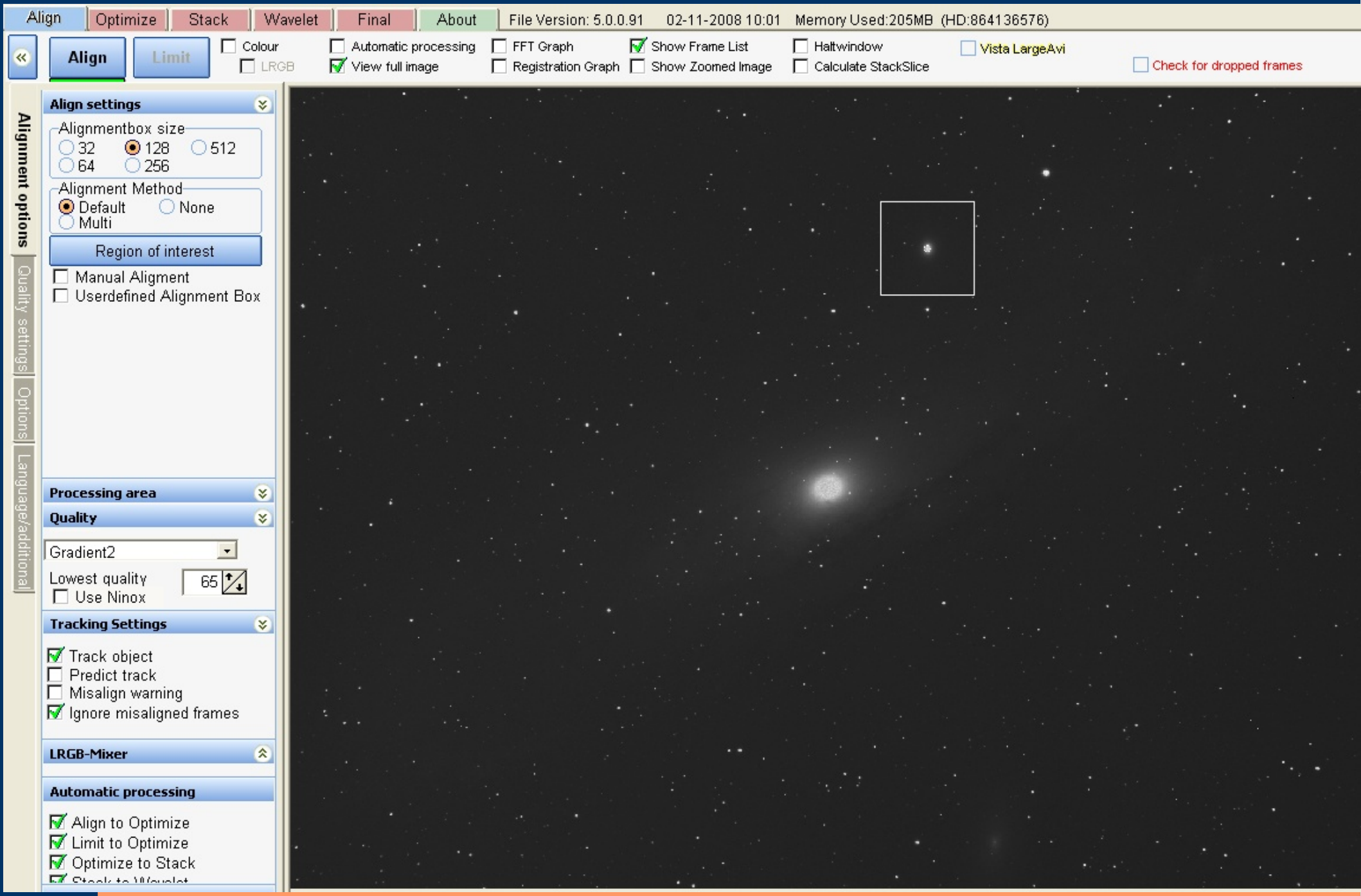


Demo : Stack with no alignment ...

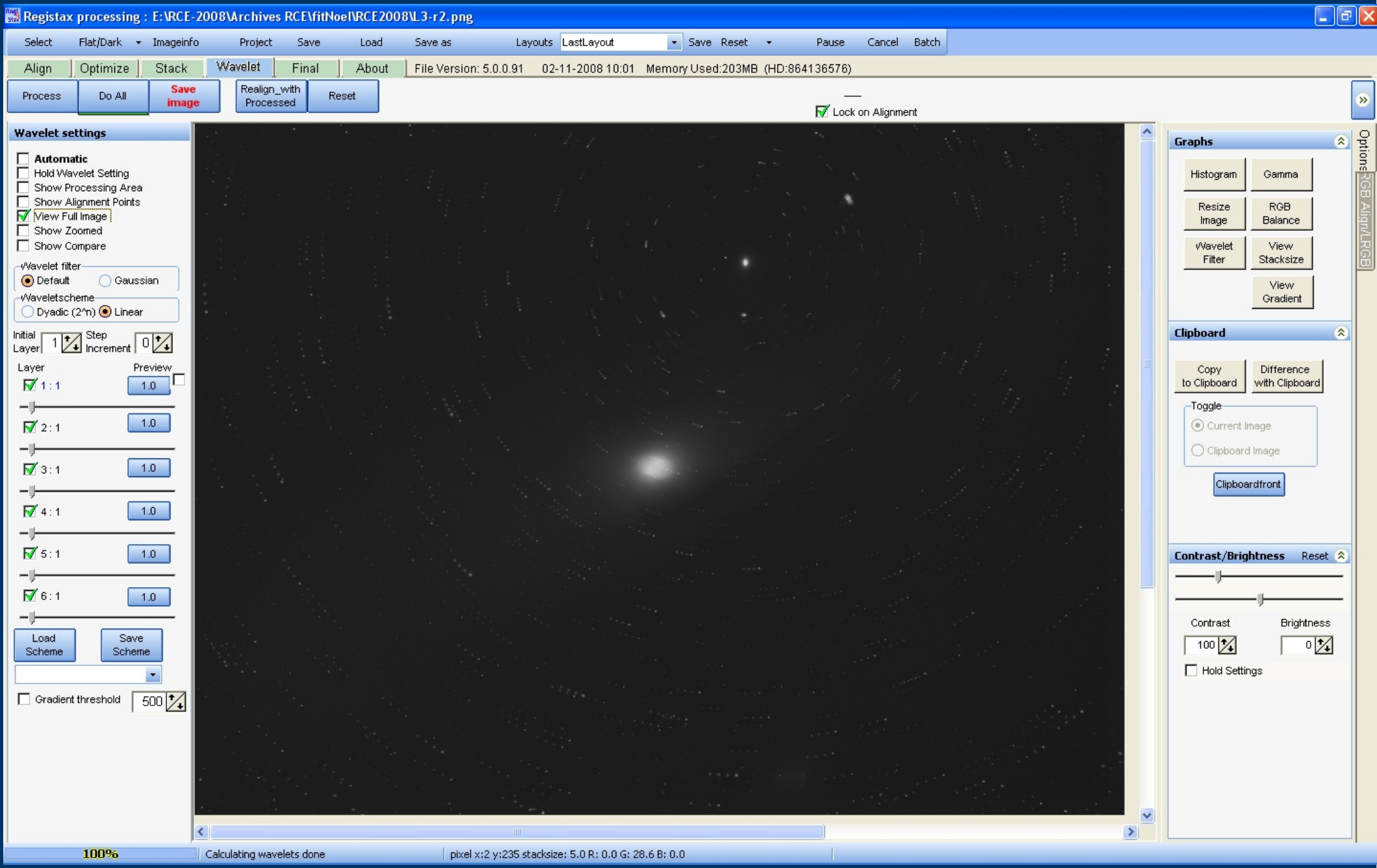


Demo Result : Problem !

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

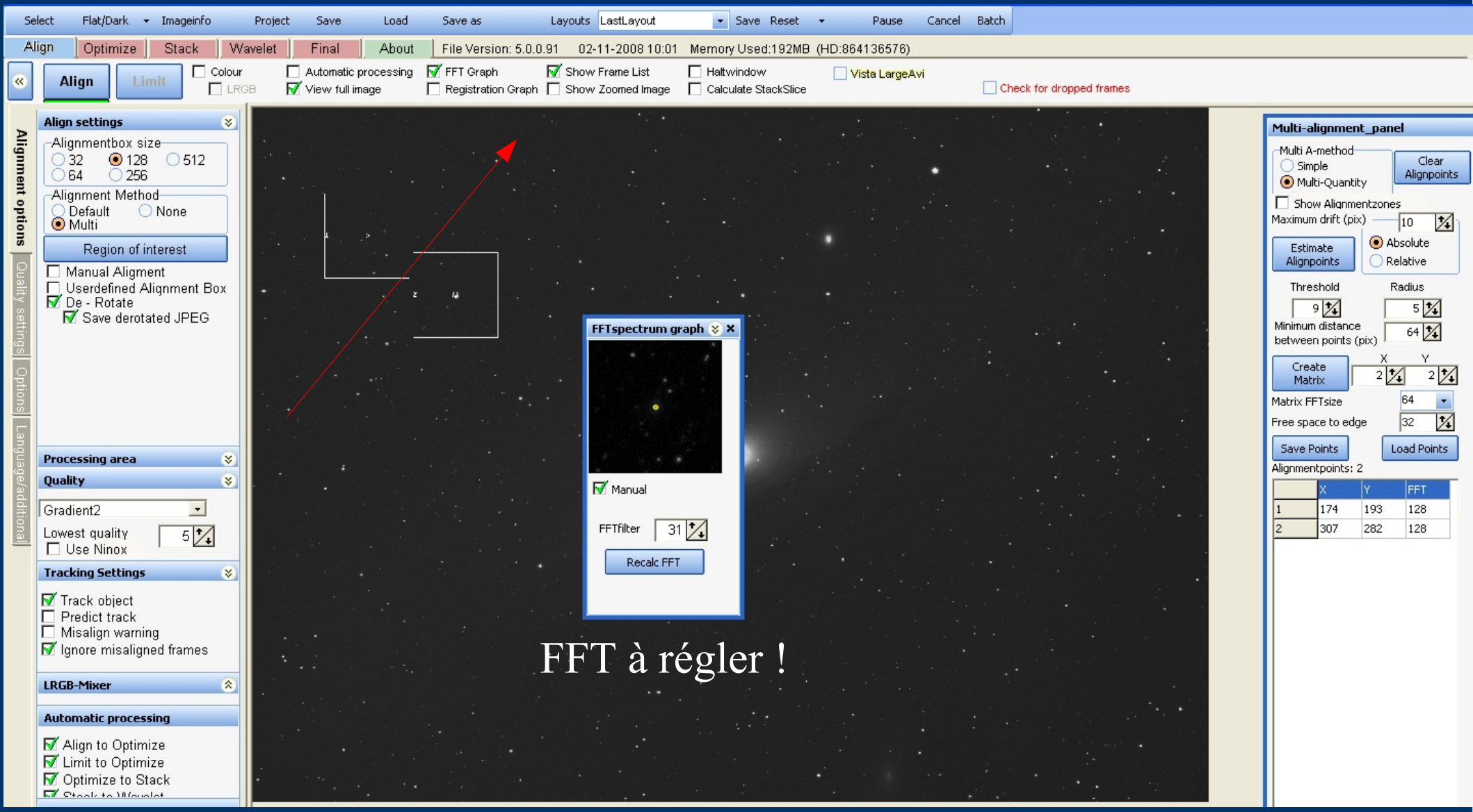


Rotation visible



Saving as AVI (8 bits)...

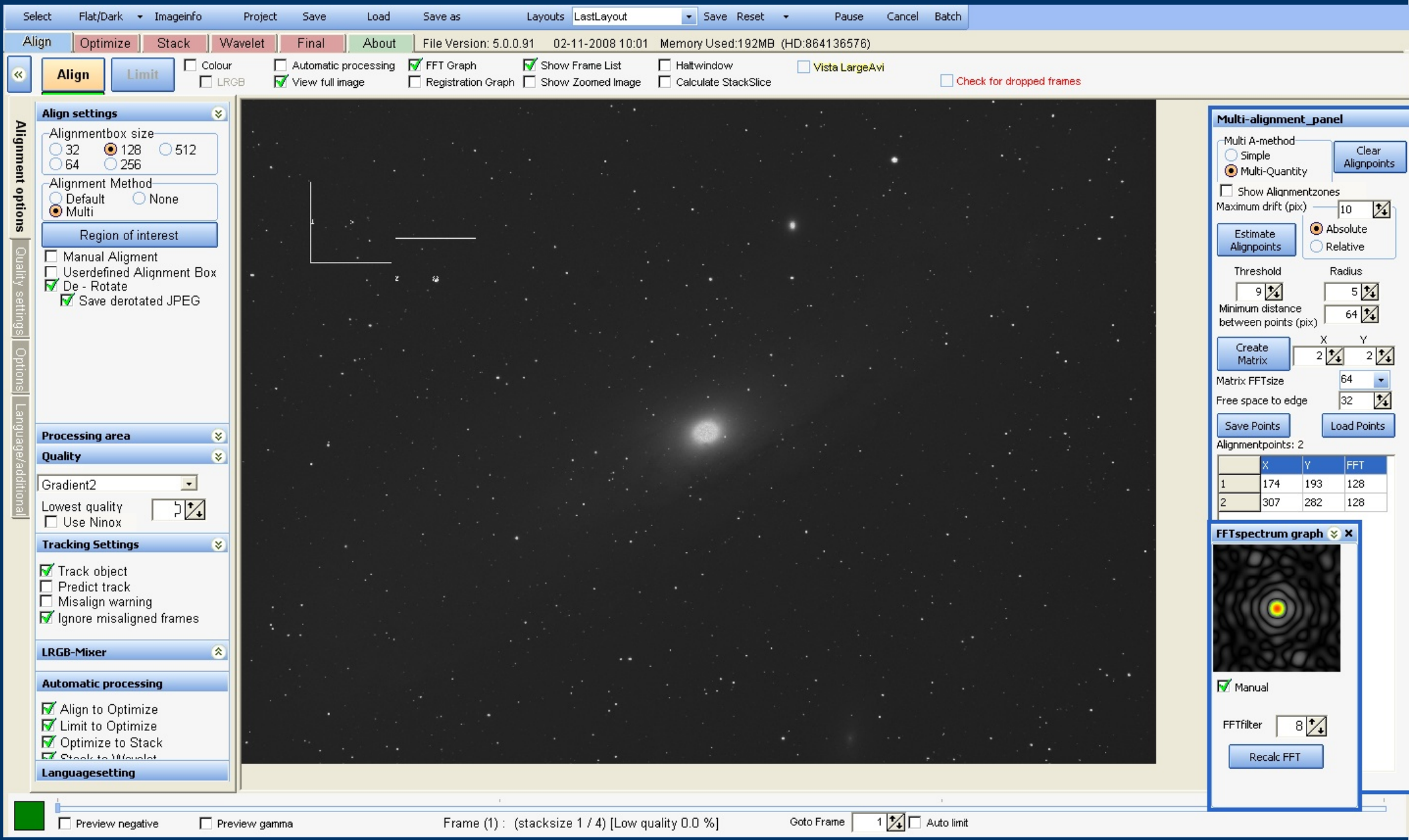
Loading, now 2 AP in a corner ...



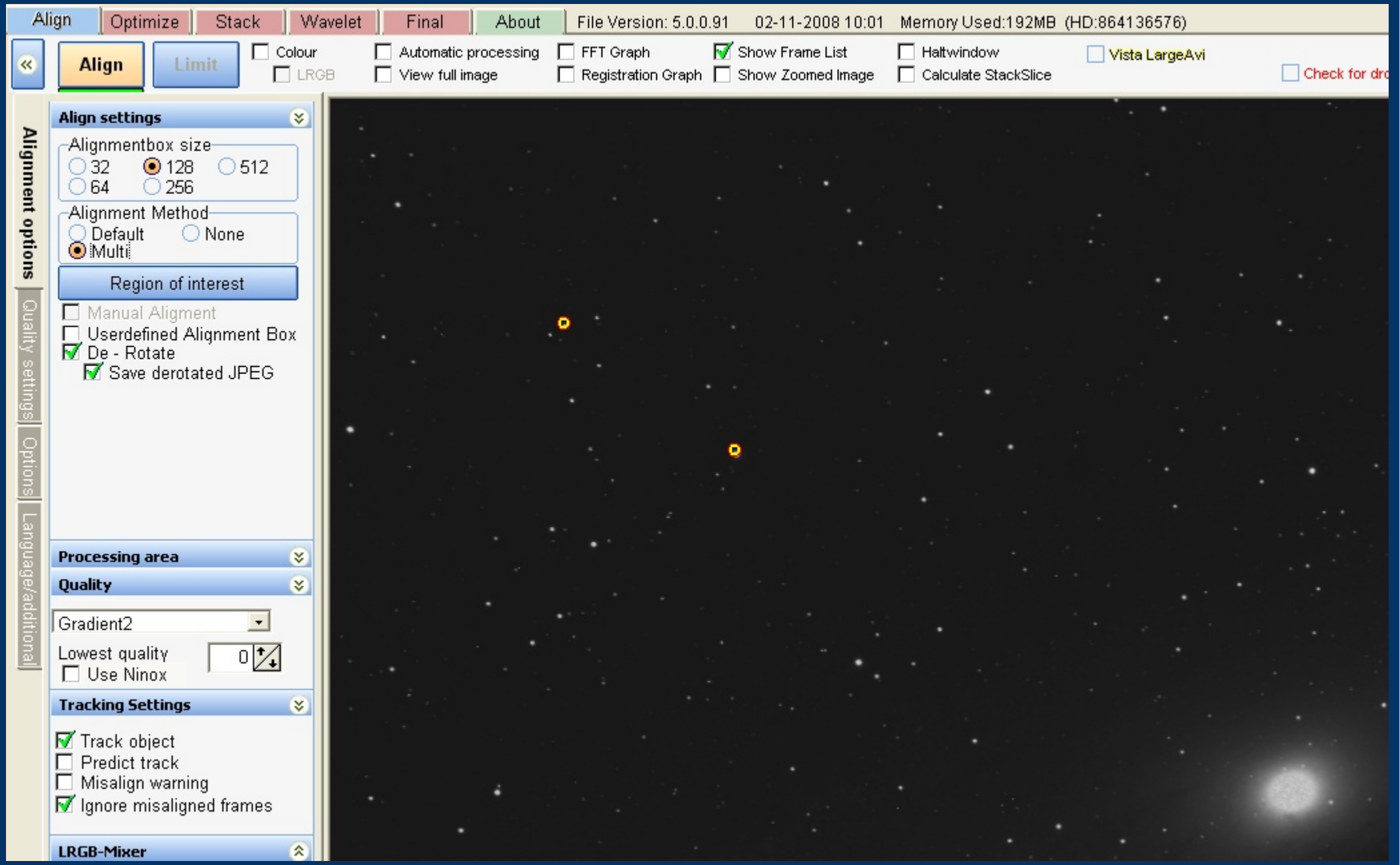
FFT à régler !

Future ligne d'ajustement des images

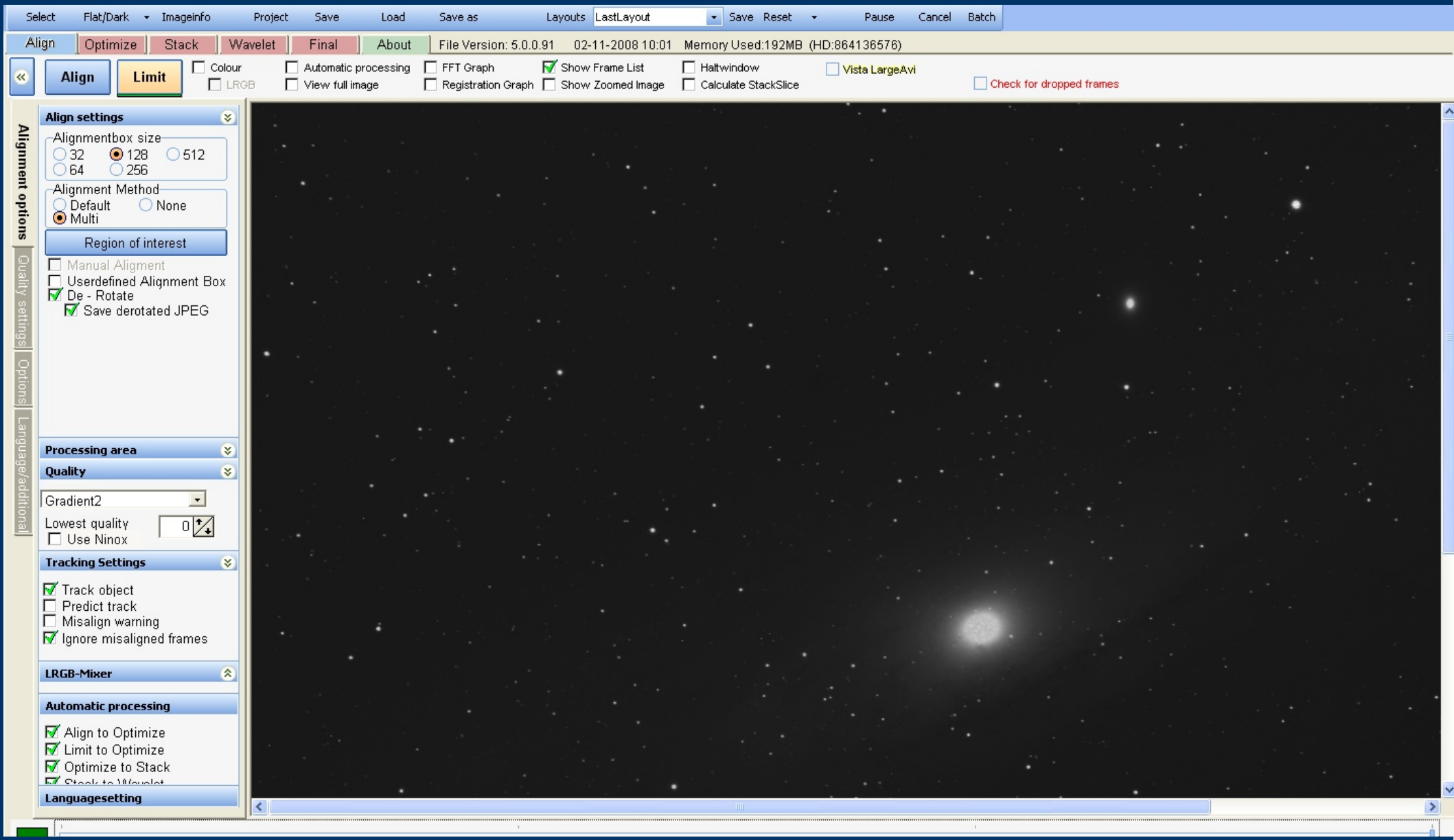
FFT and alignment with derotation...



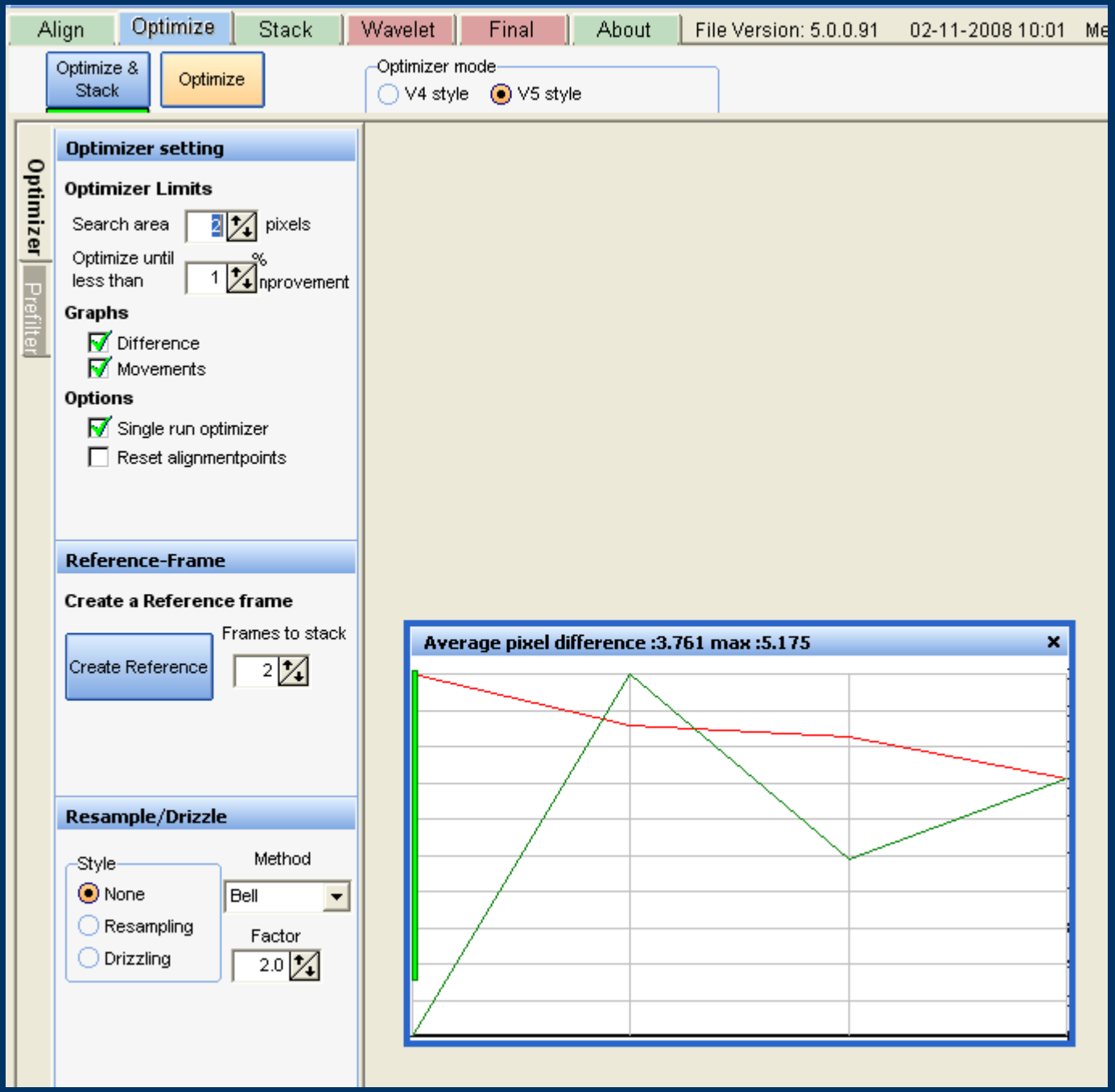
Aps follow the stars ...



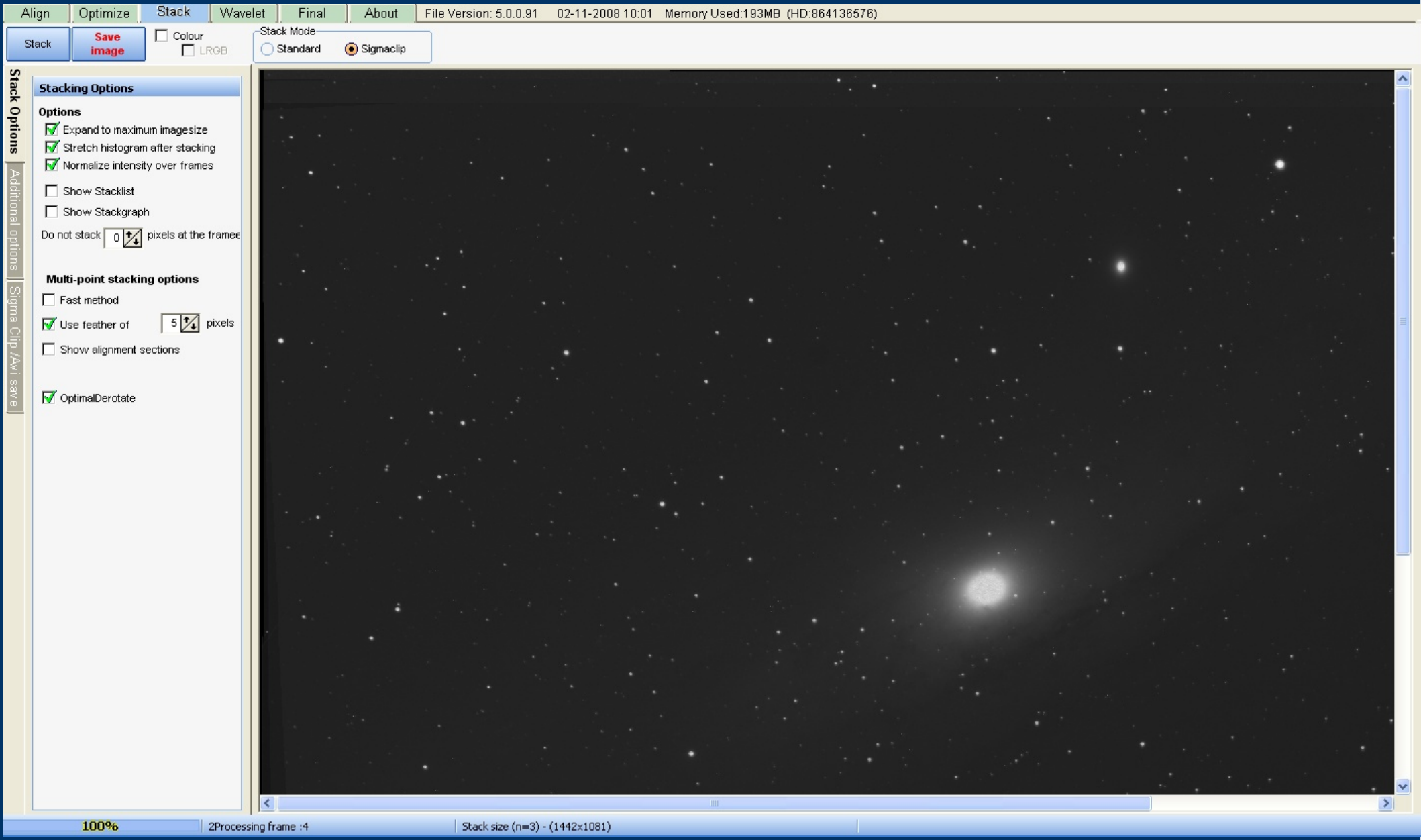
Limit ...


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
LRGB
Automatic processing
View full image
FFT Graph
Registration Graph
Show Frame List
Show Zoomed Image
Haltwindow
Calculate StackSlice
Vista LargeAvi
Check for dropped frames
Alignment options
Quality settings
Options
Language/additional
Align settings
Alignmentbox size
32
64
128
256
512
Alignment Method
Default
None
Multi
Region of interest
Manual Aligment
Userdefined Alignment Box
De - Rotate
Save derotated JPEG
Processing area
Quality
Gradient2
Lowest quality
0
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
Languagesetting

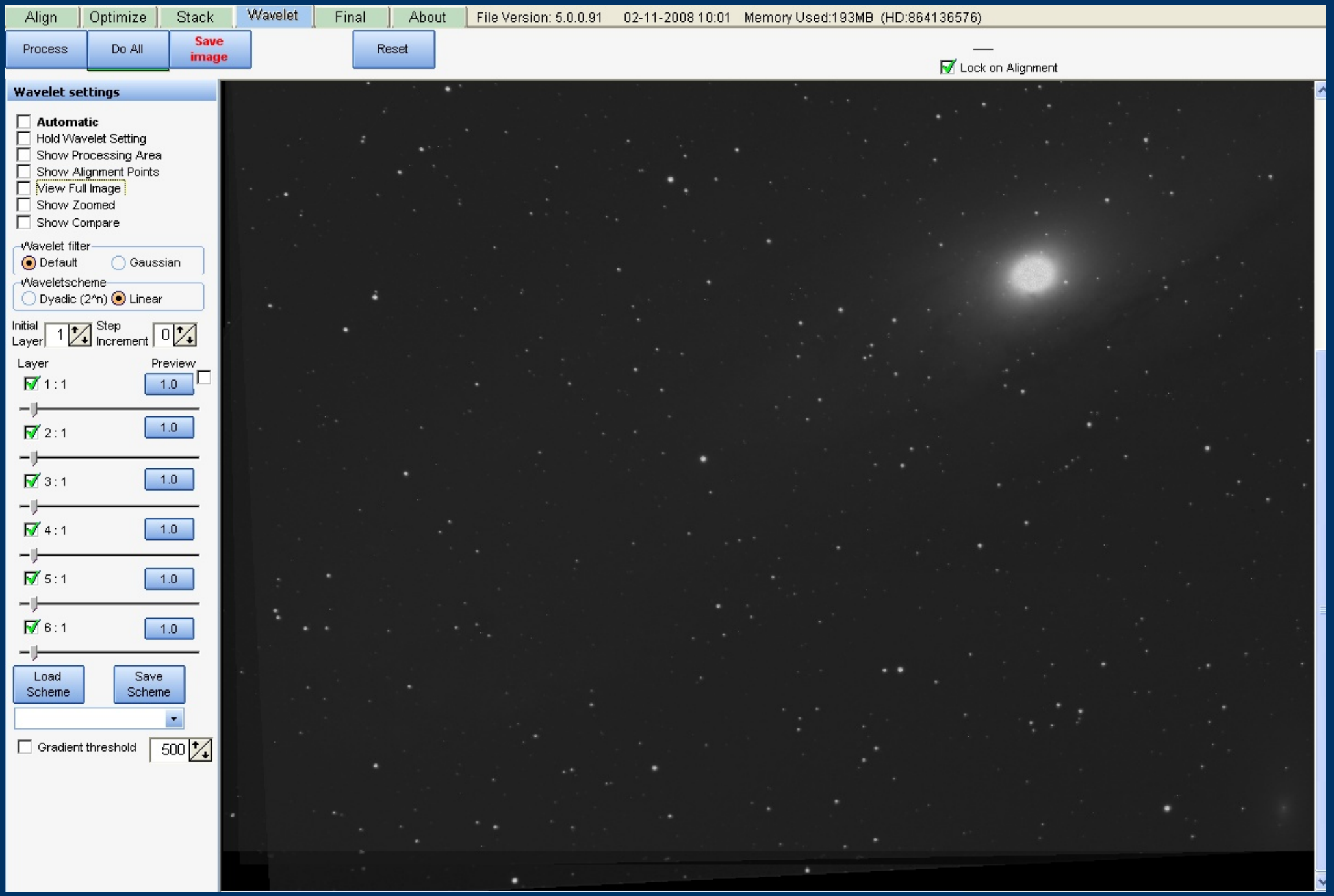
Optimisation ...



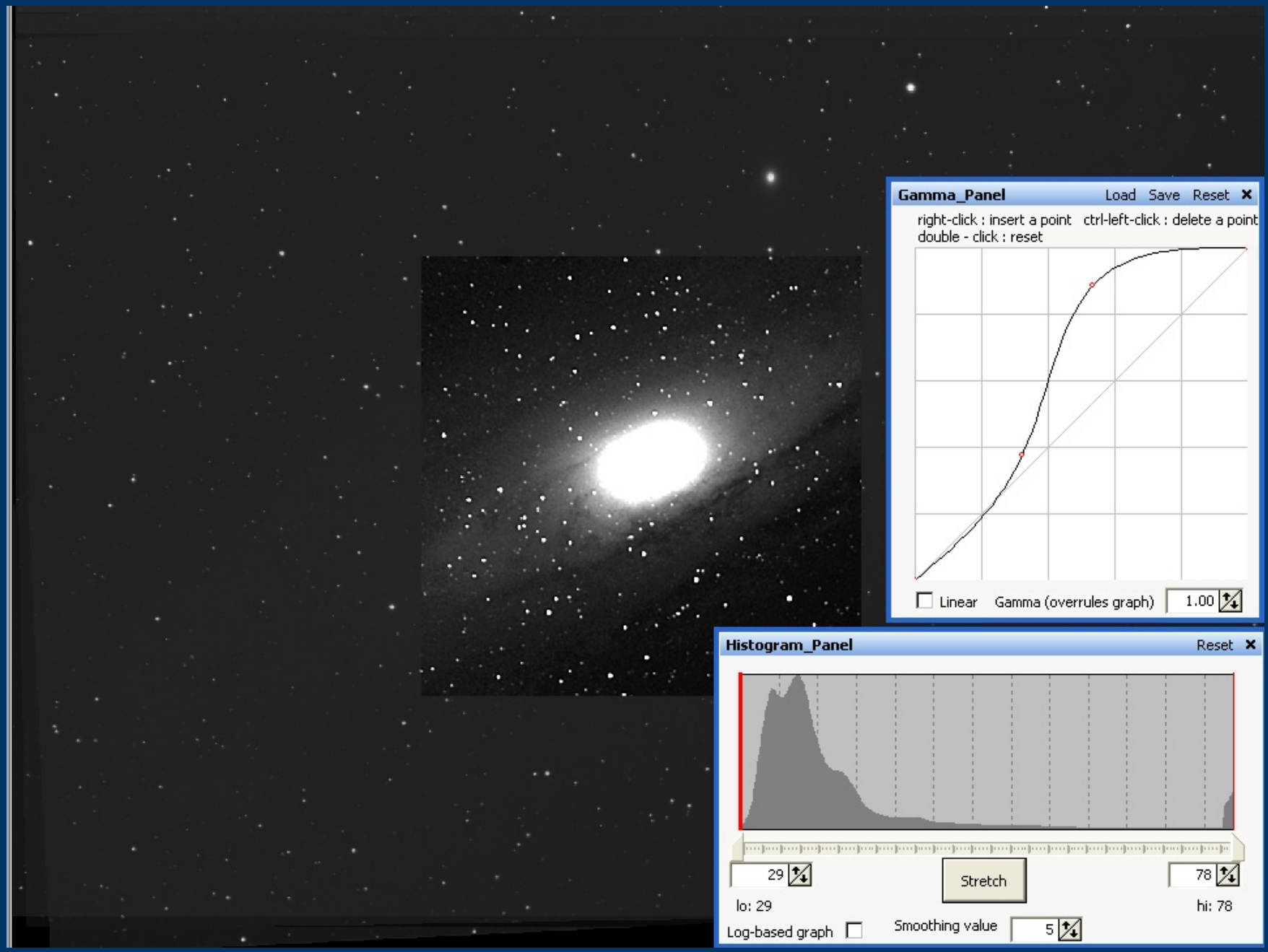
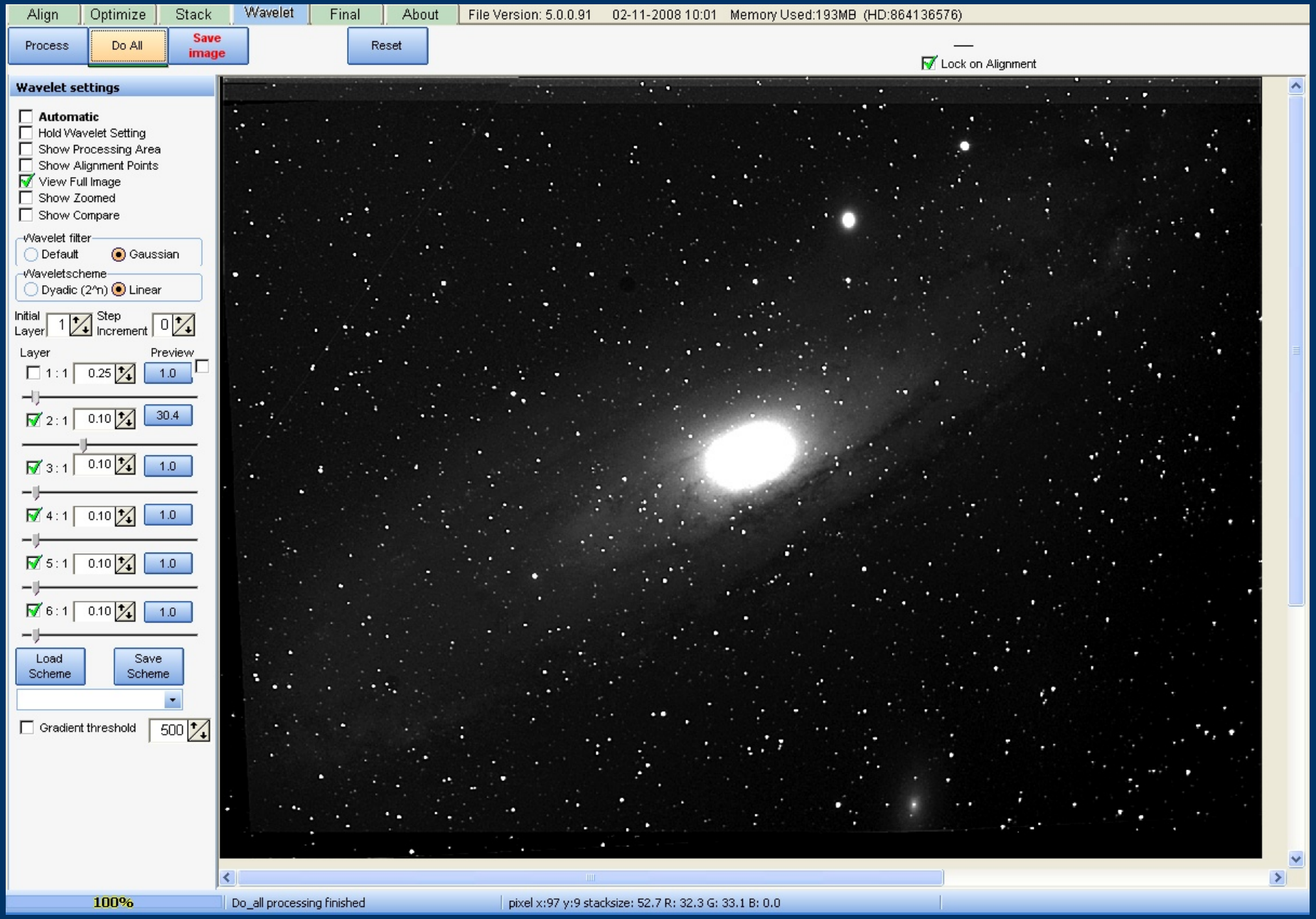
Stack with options...



Stack borders visible ...



Processing ...


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
Histogram_Panel
Reset
29
Stretch
78
lo: 29
hi: 78
Log-based graph
Smoothing value
5

Derotation done ...