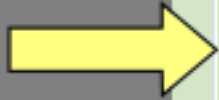



Sélectionner le plugin digiR3D pour recalibrer les données et reconstruire le volume

Sélectionner la première projection ou le fichier multipages



LOAD PROJECTIONS

1. Inputs

Image files 

White objects on black background
 Black objects on white background

Angles

Linear Saxton From file

Start Increment

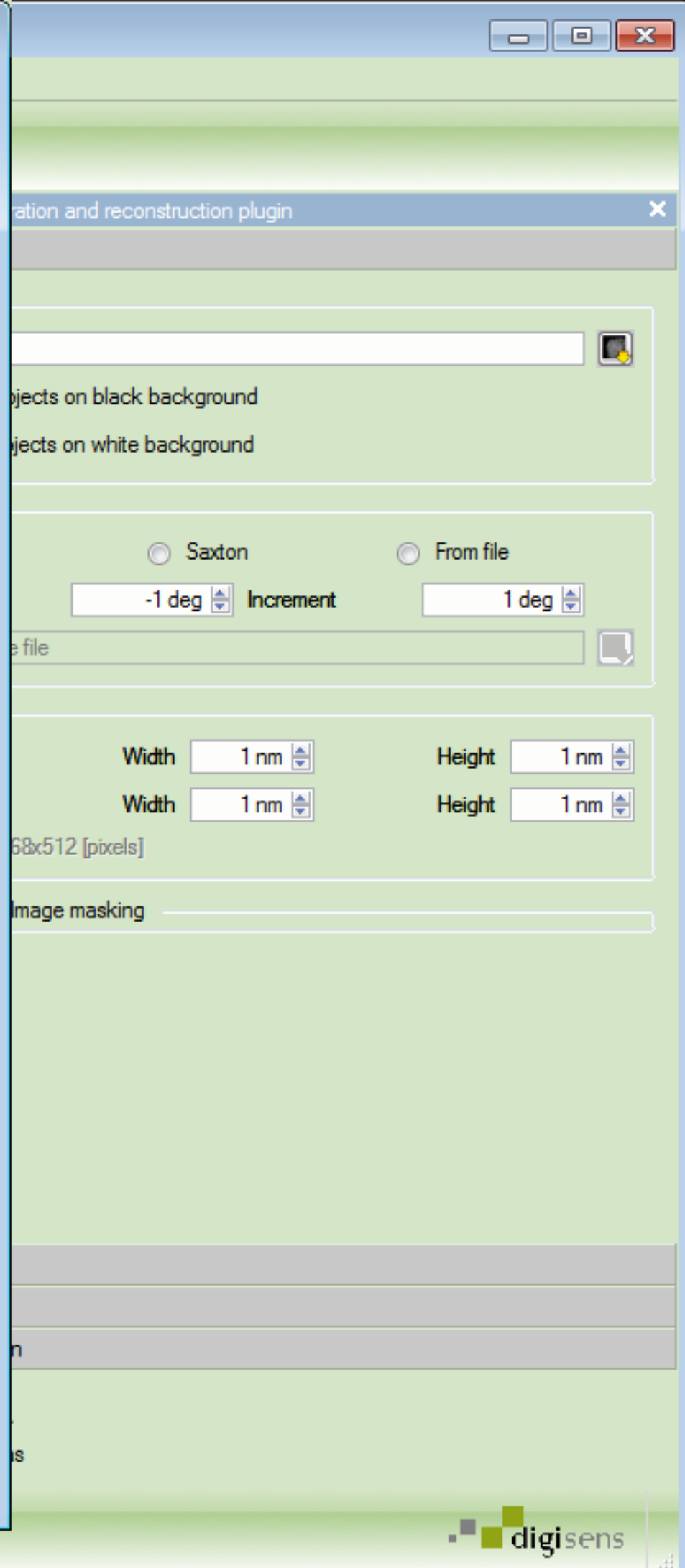
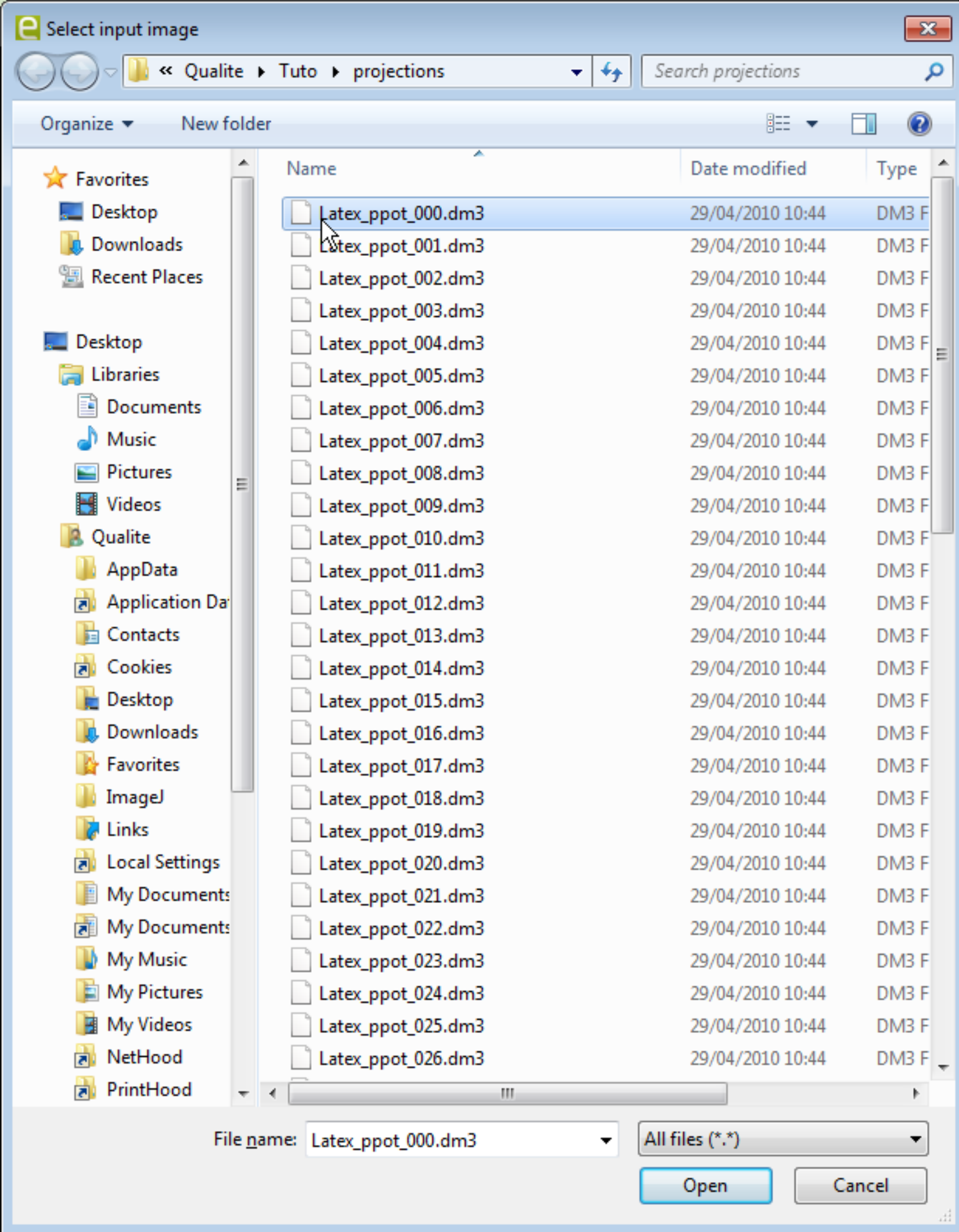
Detector

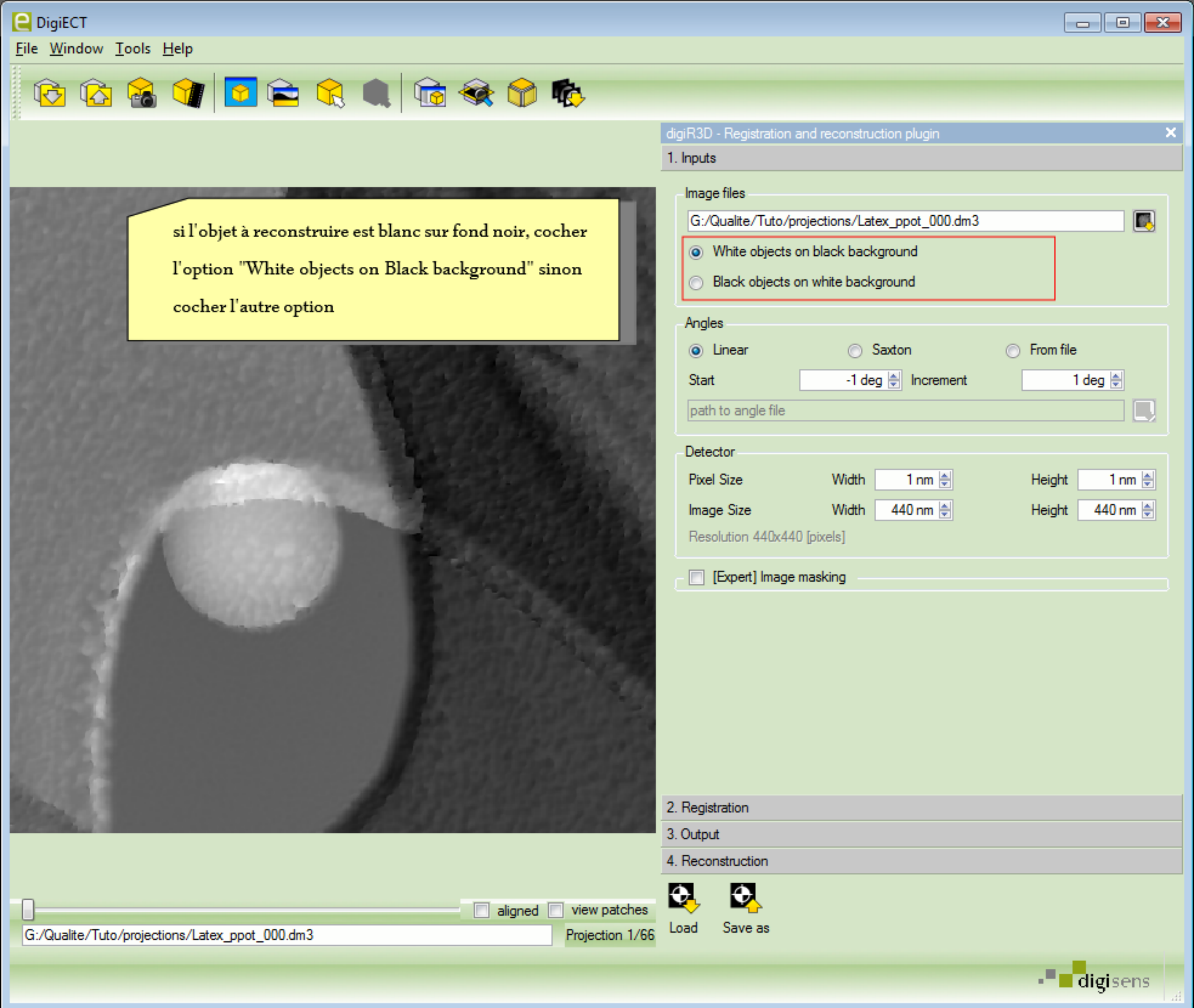
Pixel Size	Width <input type="text" value="1 nm"/>	Height <input type="text" value="1 nm"/>
Image Size	Width <input type="text" value="1 nm"/>	Height <input type="text" value="1 nm"/>

Resolution 768x512 [pixels]

[Expert] Image masking

2. Registration
3. Output
4. Reconstruction





si l'objet à reconstruire est blanc sur fond noir, cocher l'option "White objects on Black background" sinon cocher l'autre option

digiR3D - Registration and reconstruction plugin

1. Inputs

Image files
G:/Qualite/Tuto/projections/Latex_ppot_000.dm3

- White objects on black background
- Black objects on white background

Angles
 Linear Saxton From file
Start: -1 deg Increment: 1 deg
path to angle file

Detector
Pixel Size: Width 1 nm Height 1 nm
Image Size: Width 440 nm Height 440 nm
Resolution 440x440 [pixels]

[Expert] Image masking

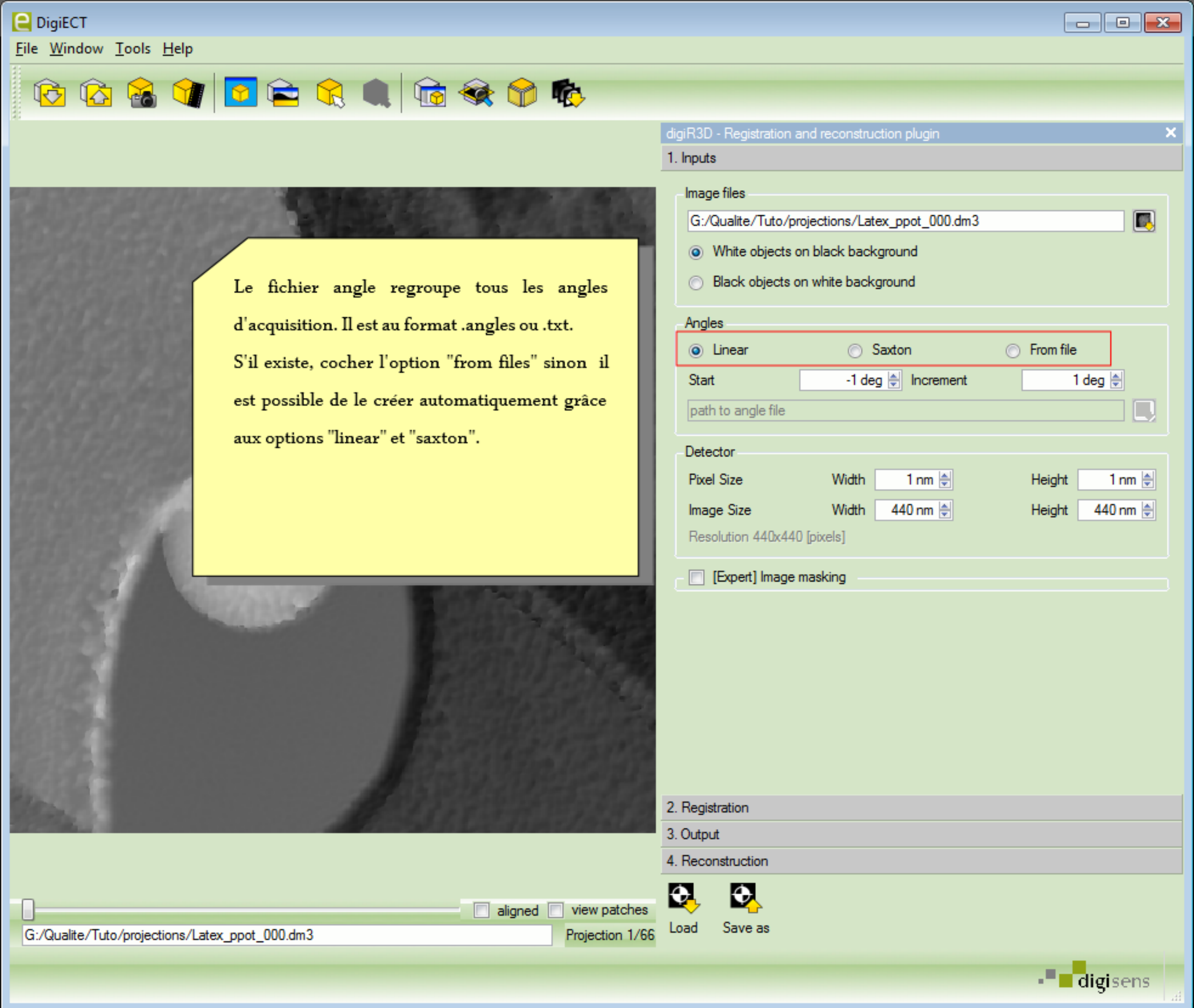
2. Registration

3. Output

4. Reconstruction

G:/Qualite/Tuto/projections/Latex_ppot_000.dm3 Projection 1/66

Load Save as



Le fichier angle regroupe tous les angles d'acquisition. Il est au format .angles ou .txt. S'il existe, cocher l'option "from files" sinon il est possible de le créer automatiquement grâce aux options "linear" et "saxton".

digiR3D - Registration and reconstruction plugin

1. Inputs

Image files
G:/Qualite/Tuto/projections/Latex_ppot_000.dm3
 White objects on black background
 Black objects on white background

Angles
 Linear Saxton From file
Start -1 deg Increment 1 deg
path to angle file

Detector
Pixel Size Width 1 nm Height 1 nm
Image Size Width 440 nm Height 440 nm
Resolution 440x440 [pixels]

[Expert] Image masking

2. Registration

3. Output

4. Reconstruction





digiR3D - Registration and reconstruction plugin

1. Inputs

Image files

G:/Qualite/Tuto/projections/Latex_ppot_000.dm3

- White objects on black background
- Black objects on white background

Angles

- Linear
- Saxton
- From file

Start -1 deg Increment 1 deg

path to angle file

Detector

Pixel Size Width 1 nm Height 1 nm
 Image Size Width 440 nm Height 440 nm
 Resolution 440x440 [pixels]

[Expert] Image masking

Dans le cas de notre exemple, le fichier angle existe.
 Une fois, l'option "From files" choisie, sélectionner le fichier en question.

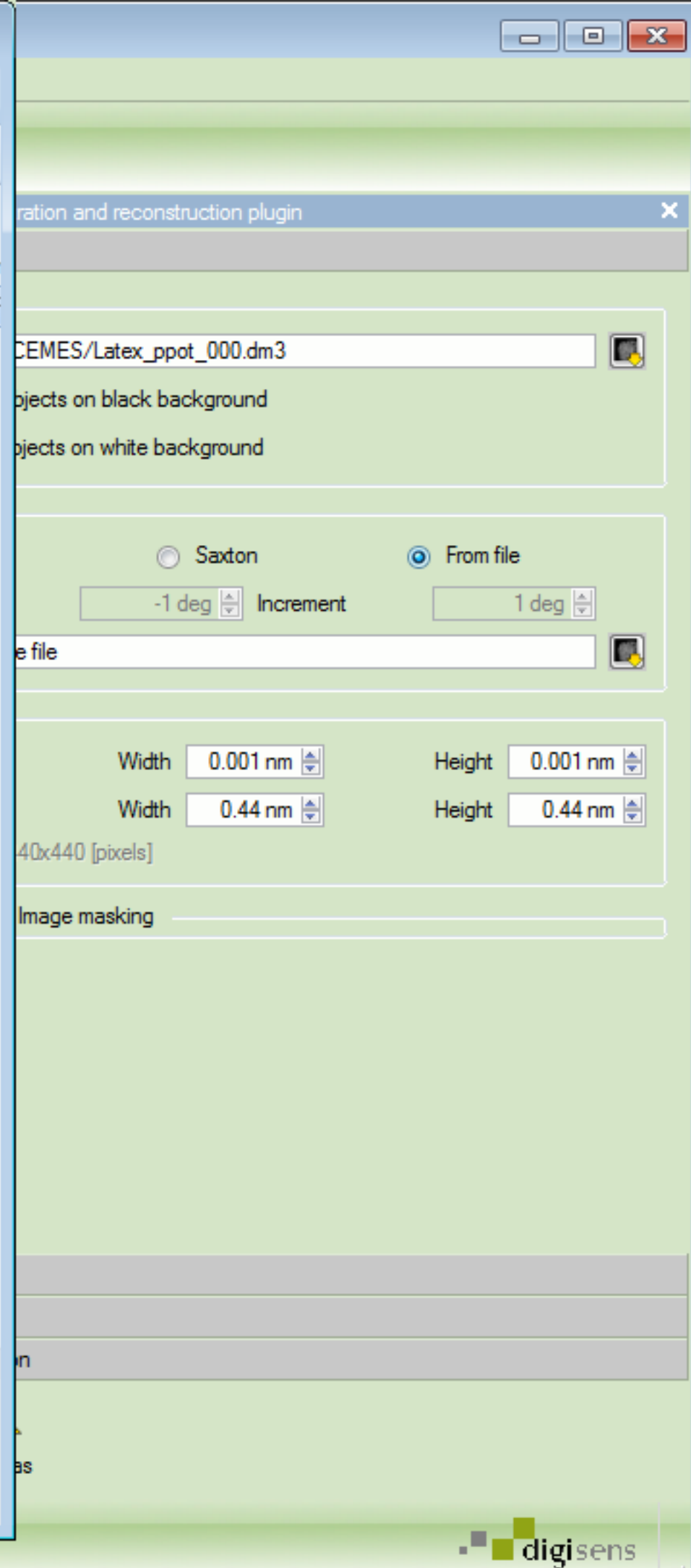
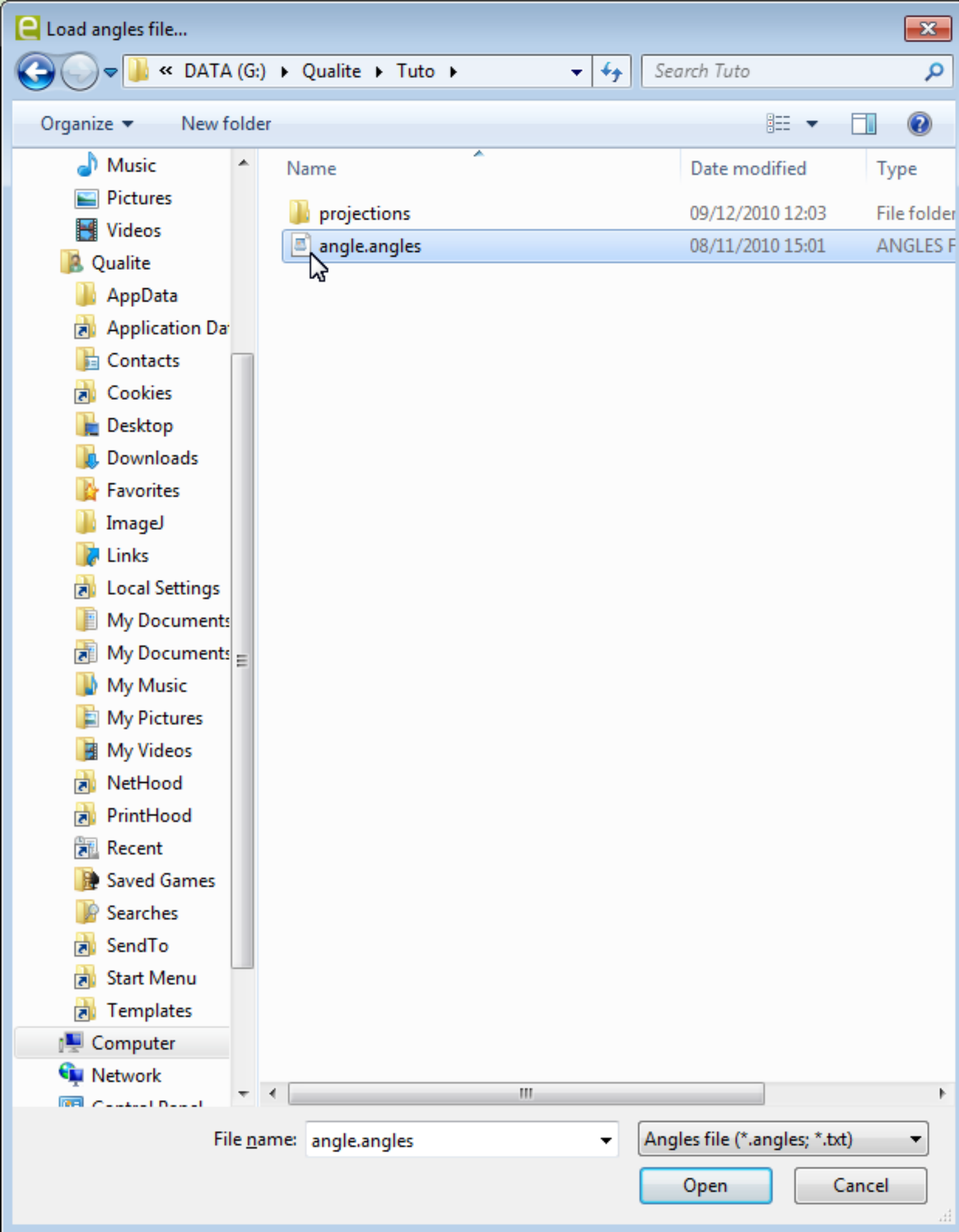
2. Registration

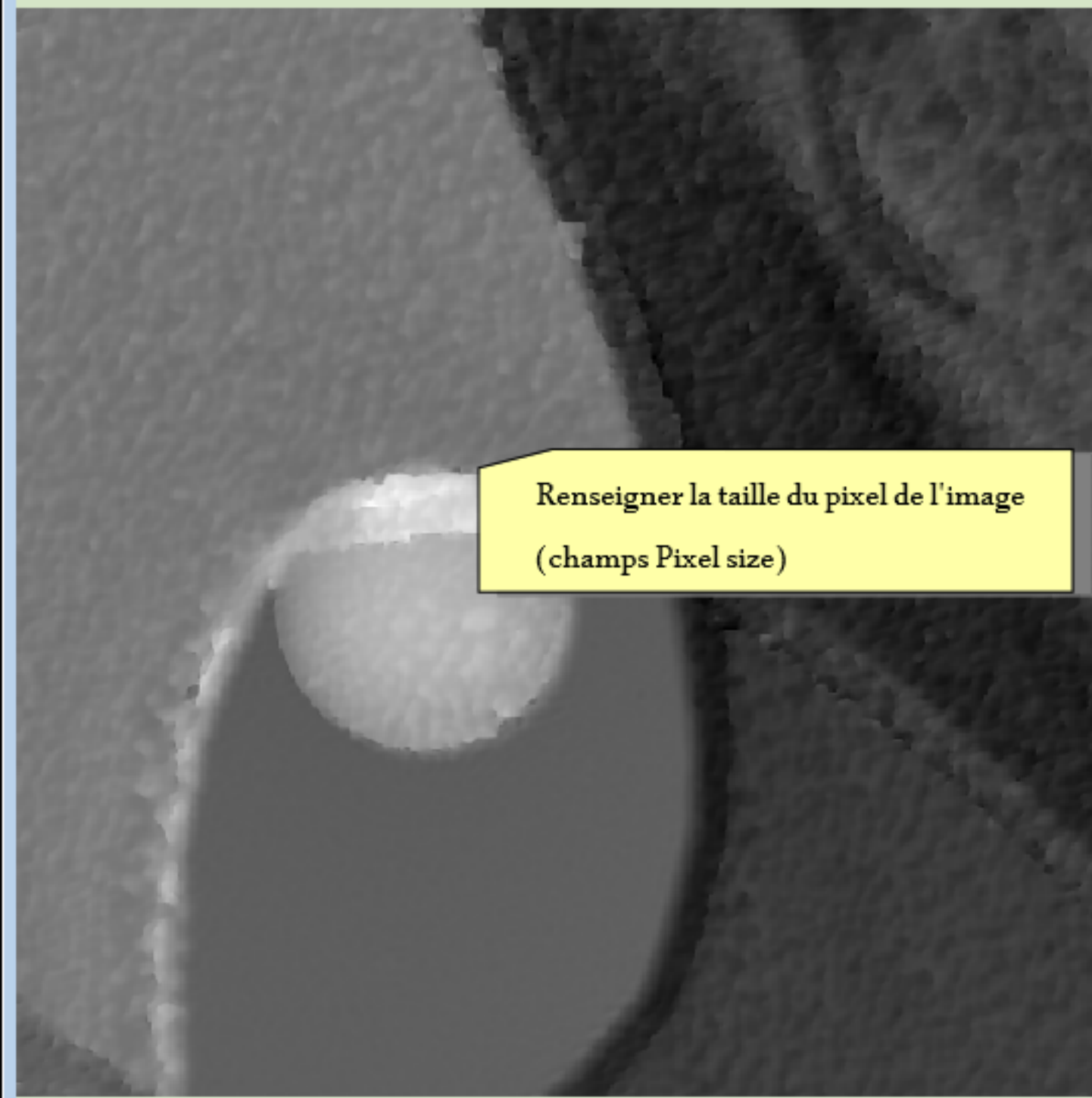
3. Output

4. Reconstruction

G:/Qualite/Tuto/projections/Latex_ppot_000.dm3
 aligned view patches
 Projection 1/66

Load Save as





Renseigner la taille du pixel de l'image
(champs Pixel size)

digiR3D - Registration and reconstruction plugin

1. Inputs

Image files

G:/Qualite/Tuto/projections/Latex_ppot_000.dm3

White objects on black background

Black objects on white background

Angles

Linear Saxton From file

Start Increment

G:/Qualite/Tuto/angle.angles

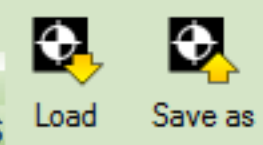
Detector

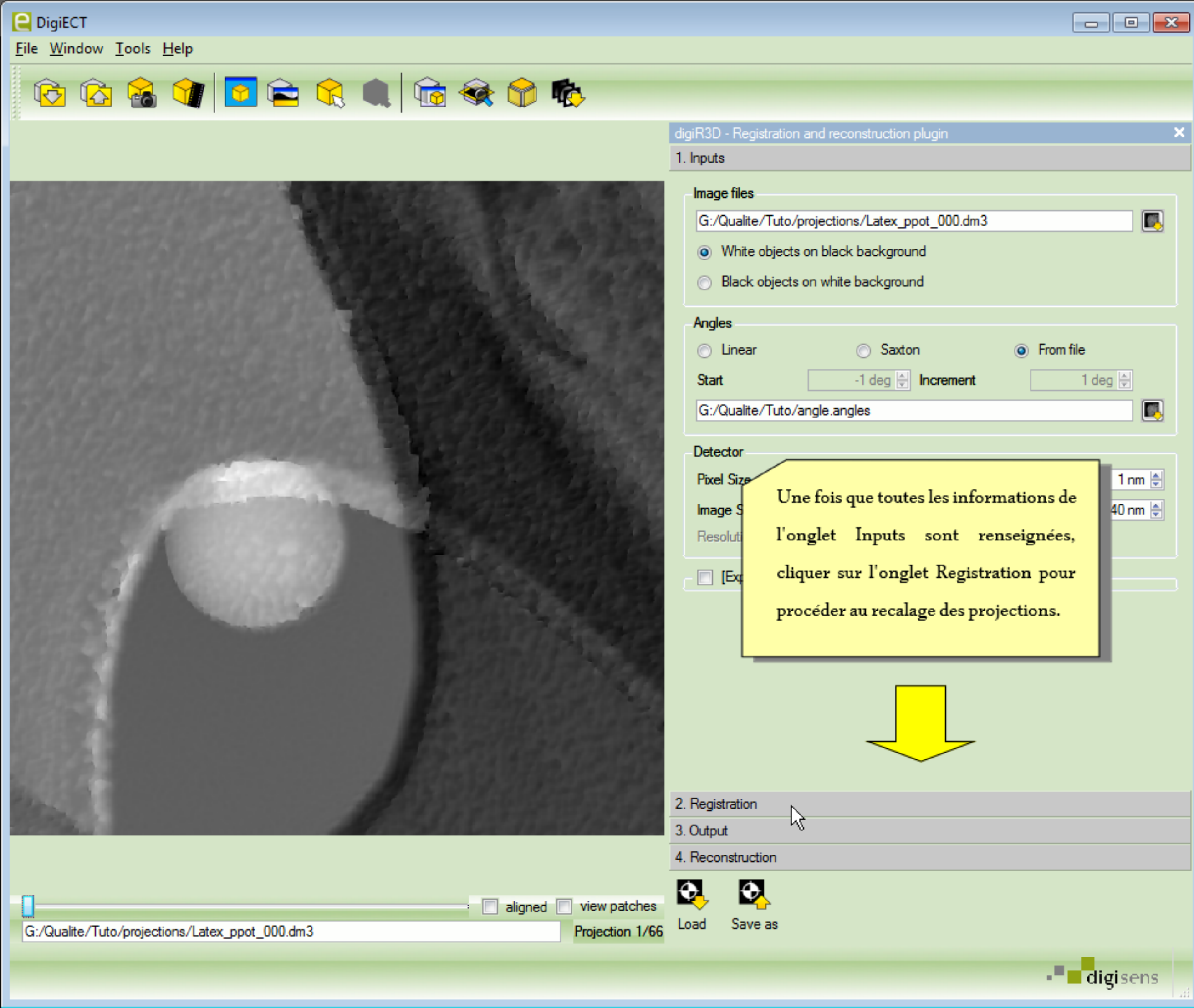
Pixel Size	Width	<input type="text" value="1 nm"/>	Height	<input type="text" value="1 nm"/>
Image Size	Width	<input type="text" value="440 nm"/>	Height	<input type="text" value="440 nm"/>

Resolution 440x440 [pixels]

[Expert] Image masking

- 2. Registration
- 3. Output
- 4. Reconstruction





digiR3D - Registration and reconstruction plugin

1. Inputs

Image files
G:/Qualite/Tuto/projections/Latex_ppot_000.dm3

- White objects on black background
- Black objects on white background

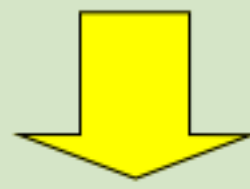
Angles

Linear Saxton From file
Start: -1 deg Increment: 1 deg
G:/Qualite/Tuto/angle.angles

Detector

Pixel Size: 1 nm
Image Size: 40 nm
Resolution: []
 [Exp]

Une fois que toutes les informations de l'onglet Inputs sont renseignées, cliquer sur l'onglet Registration pour procéder au recalage des projections.



- 2. Registration
- 3. Output
- 4. Reconstruction

Load Save as

aligned view patches
G:/Qualite/Tuto/projections/Latex_ppot_000.dm3 Projection 1/66



- 1. Inputs
- 2. Registration

Pre processing Seeds Tracking Geometry

[Expert] Image filtering for registration
 Binning Ratio

Preliminary alignment
Pre-align

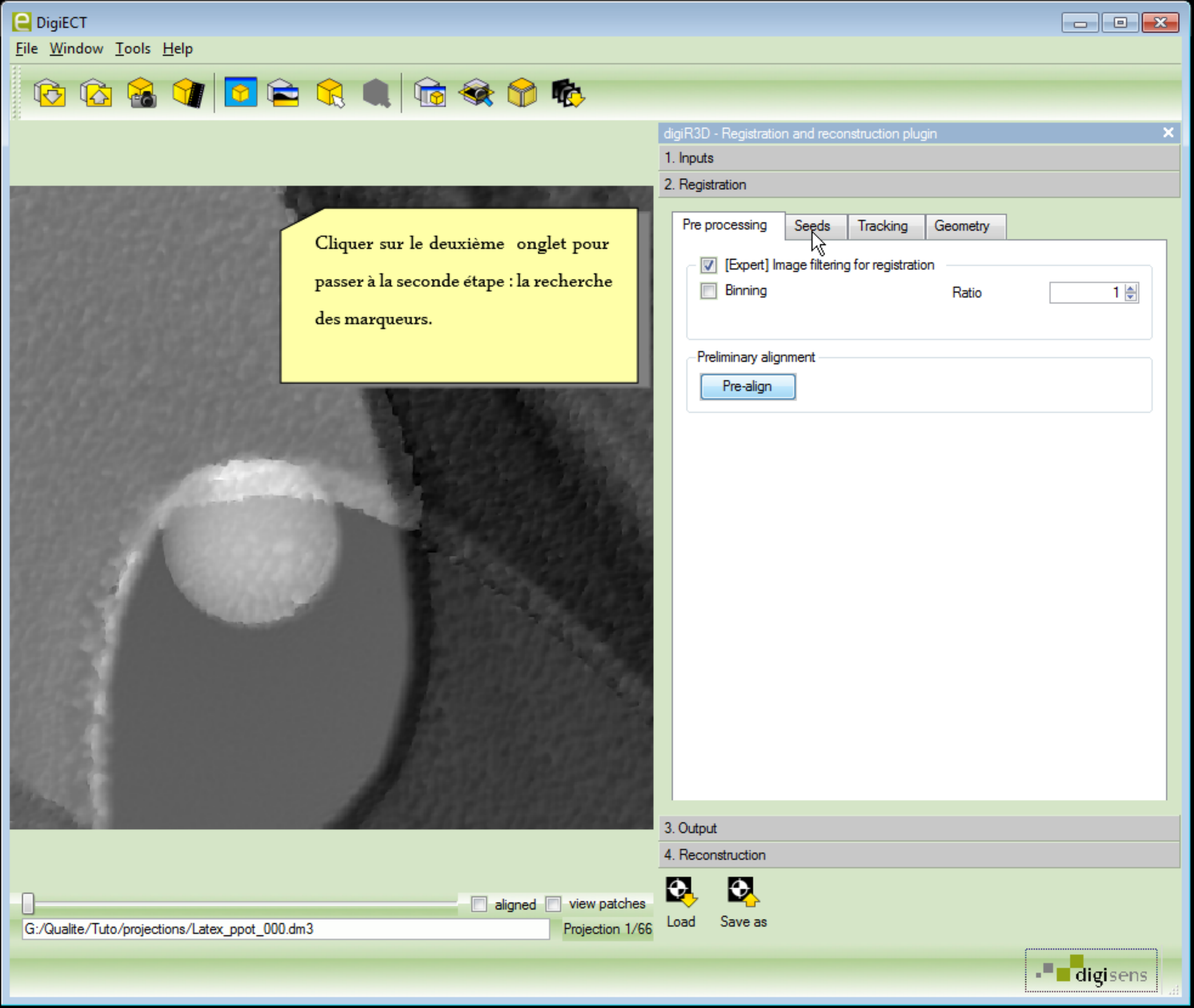
Etape 1 du recalage : Pré alignement

Cliquer sur le bouton "Pre-align" pour activer le pré alignement. Cette opération consiste en un premier alignement grossier par cross corrélation.

- 3. Output
- 4. Reconstruction

Load Save as

aligned view patches
G:/Qualite/Tuto/projections/Latex_ppot_000.dm3 Projection 1/66



Cliquer sur le deuxième onglet pour passer à la seconde étape : la recherche des marqueurs.

digiR3D - Registration and reconstruction plugin

1. Inputs

2. Registration

Pre processing Seeds Tracking Geometry

[Expert] Image filtering for registration
 Binning Ratio

Preliminary alignment

Pre-align

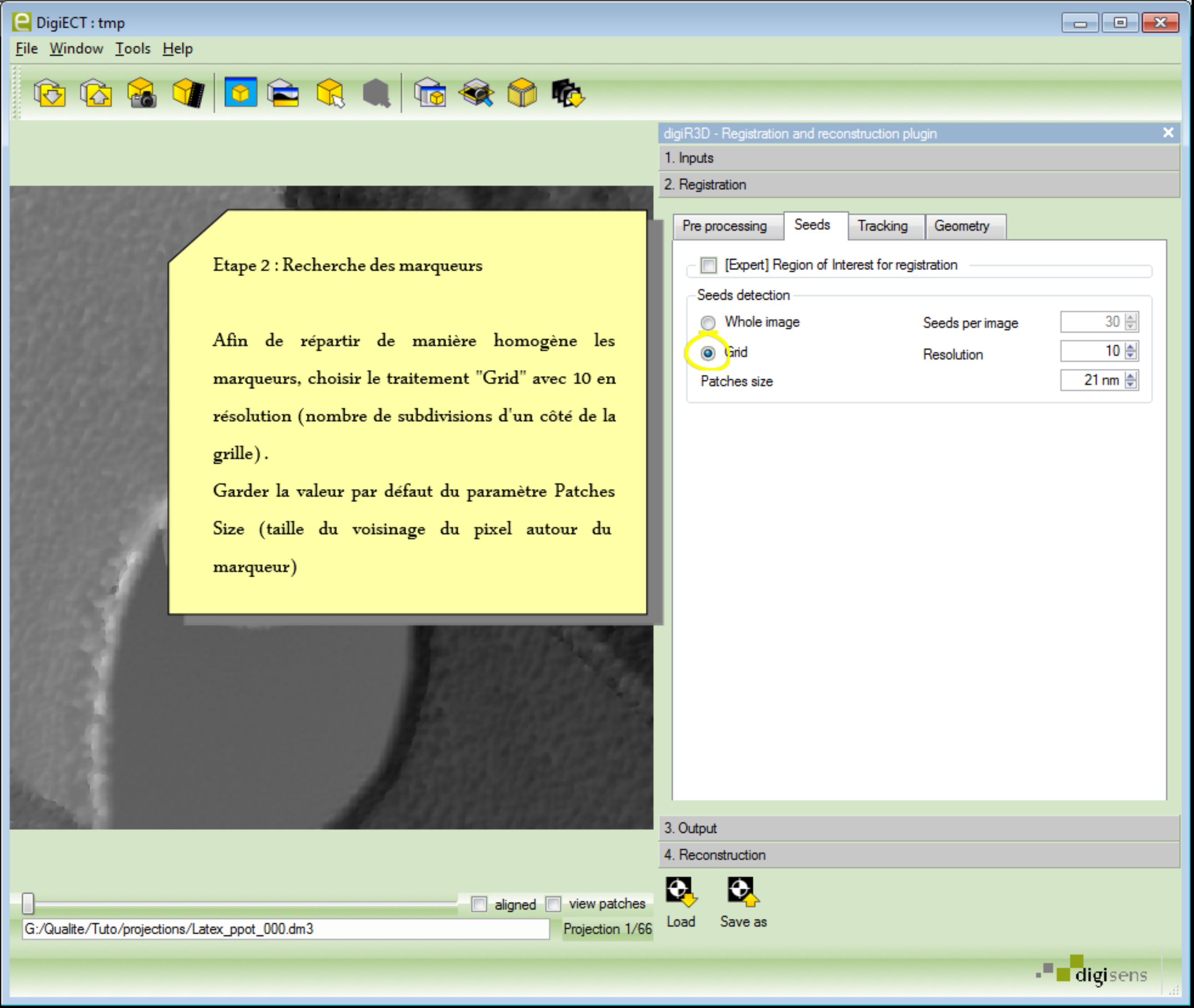
3. Output

4. Reconstruction

Load Save as

G:/Qualite/Tuto/projections/Latex_ppot_000.dm3 Projection 1/66





Etape 2 : Recherche des marqueurs

Afin de répartir de manière homogène les marqueurs, choisir le traitement "Grid" avec 10 en résolution (nombre de subdivisions d'un côté de la grille).

Garder la valeur par défaut du paramètre Patches Size (taille du voisinage du pixel autour du marqueur)

digiR3D - Registration and reconstruction plugin

1. Inputs

2. Registration

Pre processing

Seeds

Tracking

Geometry

[Expert] Region of Interest for registration

Seeds detection

Whole image

Seeds per image

30

Grid

Resolution

10

Patches size

21 nm

3. Output

4. Reconstruction



Load

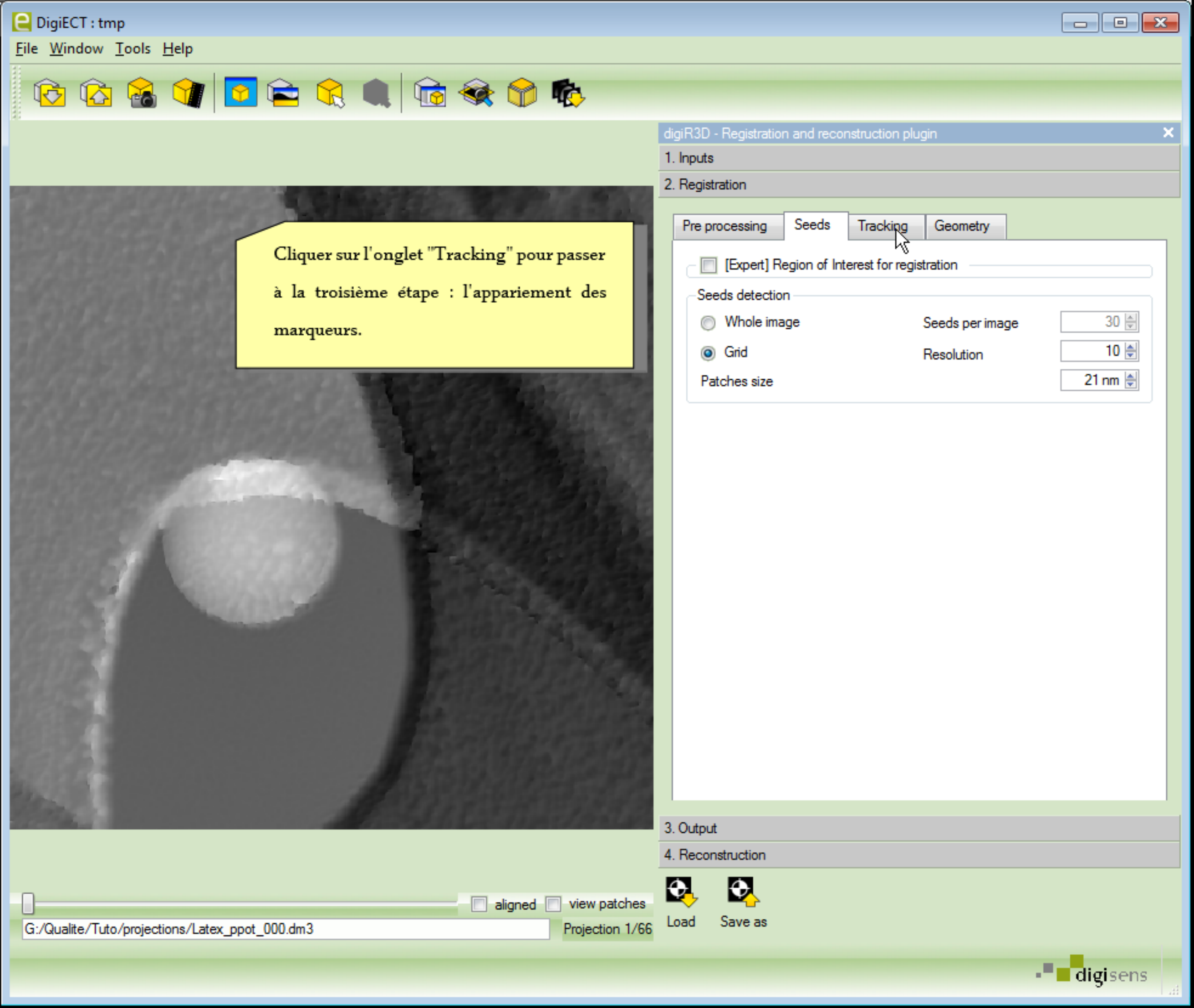


Save as

aligned view patches

G:/Qualite/Tuto/projections/Latex_ppot_000.dm3

Projection 1/66



Cliquer sur l'onglet "Tracking" pour passer à la troisième étape : l'appariement des marqueurs.

digiR3D - Registration and reconstruction plugin

1. Inputs

2. Registration

Pre processing

Seeds

Tracking

Geometry

[Expert] Region of Interest for registration

Seeds detection

Whole image

Seeds per image

30

Grid

Resolution

10

Patches size

21 nm

3. Output

4. Reconstruction



Load



Save as

aligned view patches

G:/Qualite/Tuto/projections/Latex_ppot_000.dm3

Projection 1/66



digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration

Pre processing Seeds Tracking Geometry

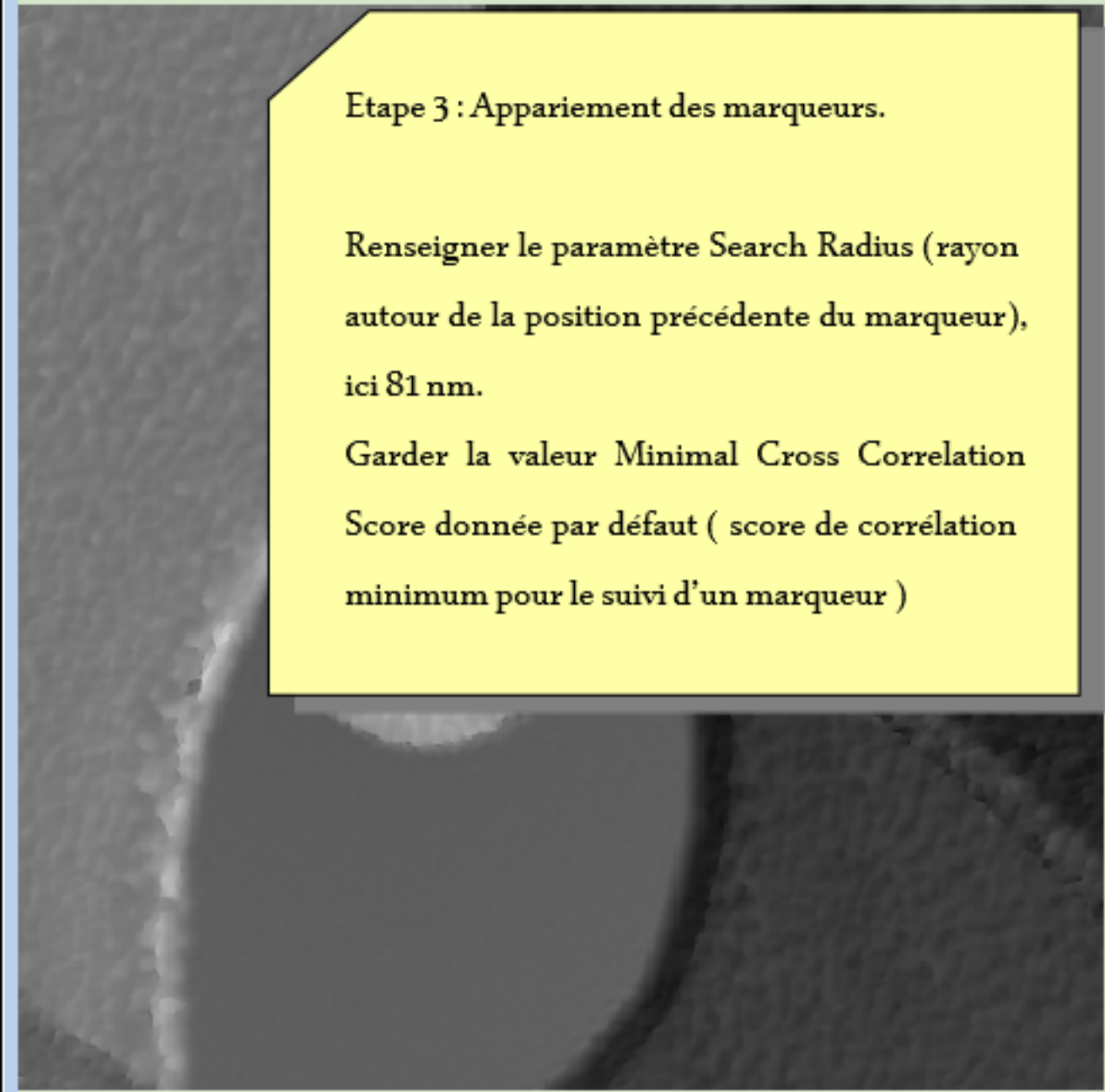
Search radius 81 nm

Minimal cross correlation score 0.92

Etape 3 : Appariement des marqueurs.

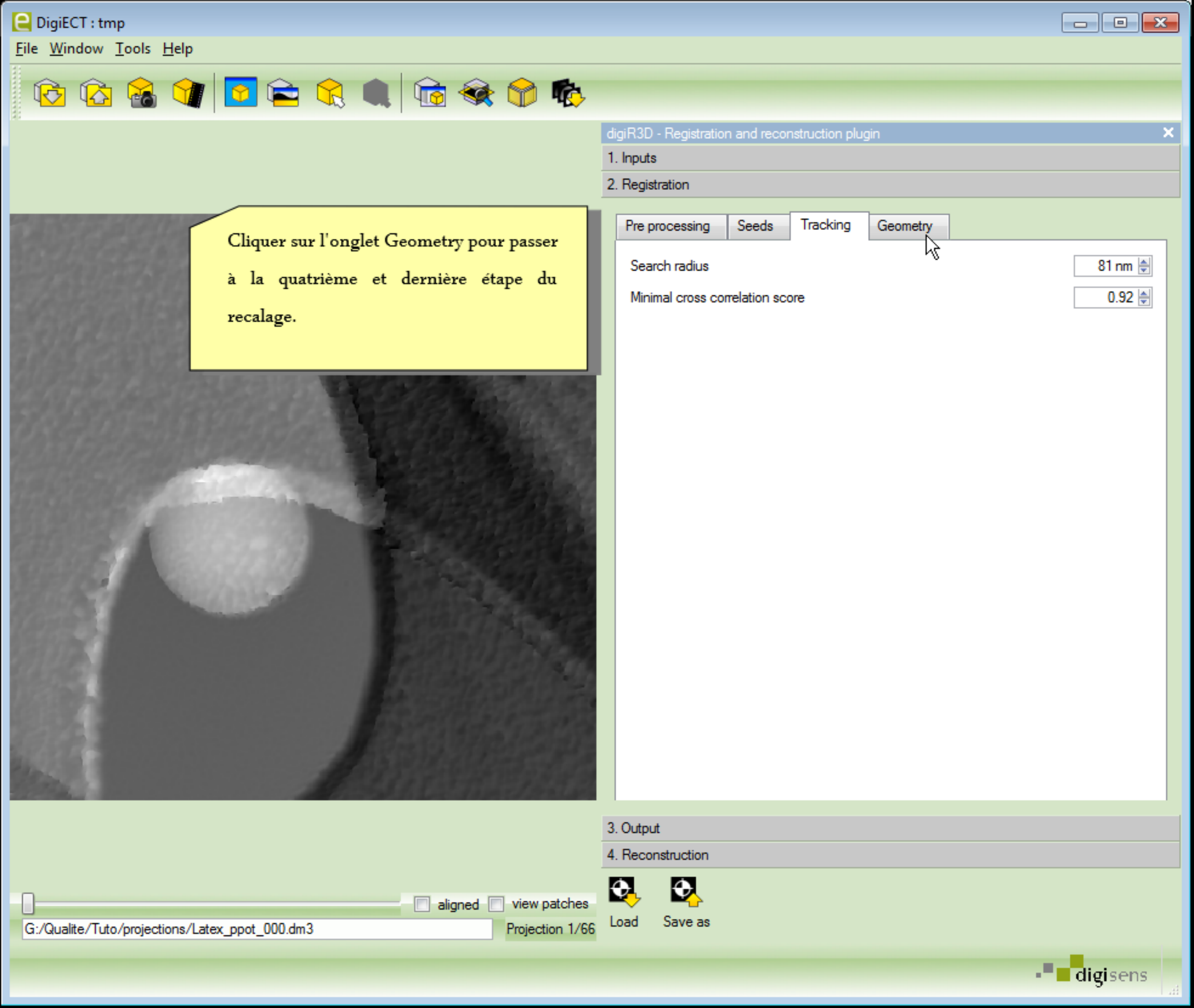
Renseigner le paramètre Search Radius (rayon autour de la position précédente du marqueur), ici 81 nm.

Garder la valeur Minimal Cross Correlation Score donnée par défaut (score de corrélation minimum pour le suivi d'un marqueur)



- 3. Output
- 4. Reconstruction





Cliquer sur l'onglet Geometry pour passer à la quatrième et dernière étape du recalage.

digiR3D - Registration and reconstruction plugin

1. Inputs

2. Registration

Pre processing

Seeds

Tracking

Geometry

Search radius

81 nm

Minimal cross correlation score

0.92

3. Output

4. Reconstruction



Load



Save as

aligned view patches

G:/Qualite/Tuto/projections/Latex_ppot_000.dm3

Projection 1/66



digiR3D - Registration and reconstruction plugin

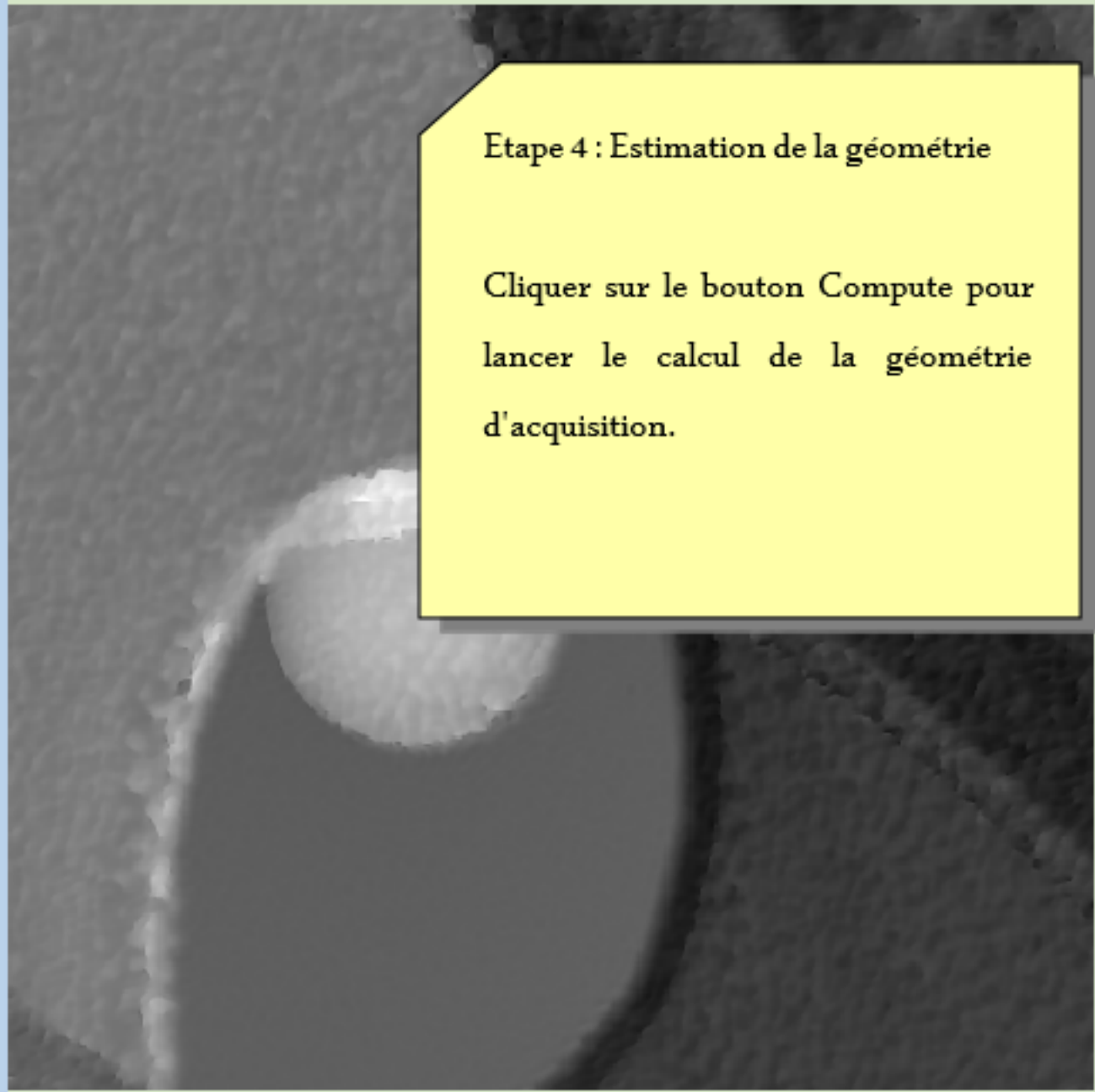
- 1. Inputs
- 2. Registration

Pre processing Seeds Tracking **Geometry**

Compute

Etape 4 : Estimation de la géométrie

Cliquer sur le bouton Compute pour lancer le calcul de la géométrie d'acquisition.



3. Output

4. Reconstruction



Load



Save as

aligned view patches

G:/Qualite/Tuto/projections/Latex_ppot_000.dm3

Projection 1/66

Registration - Step 4/6

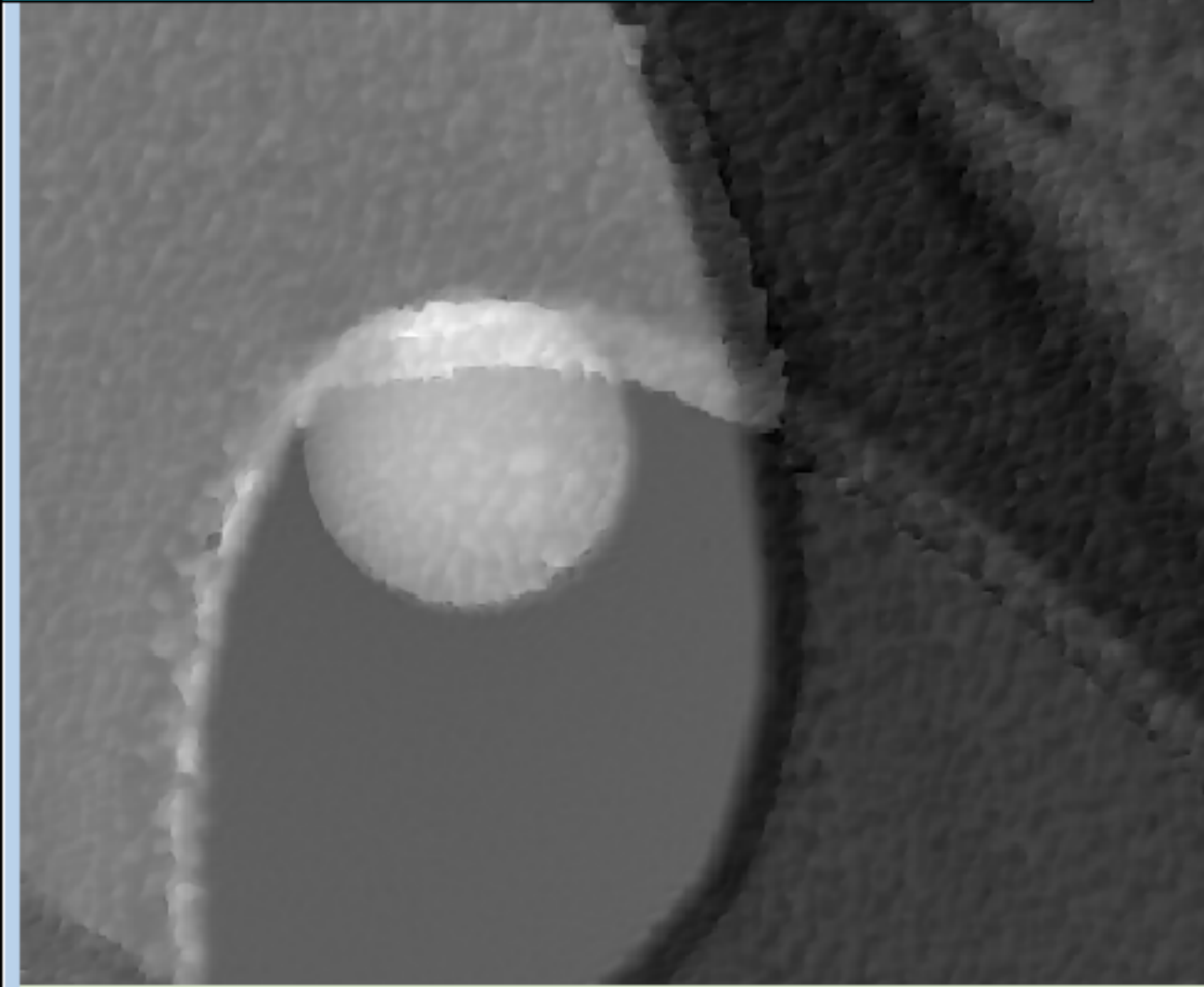
Mean step	24.118 sec
Estimated total duration	2m24s
Estimated remaining time	2m00s
Estimated end at	09/12/2010 @ 16h52m10s

16%
 Tracking seeds...
 9%

Cancel

digiR3D - Registration and reconstruction plugin

- Inputs
- Registration



- Output
- Reconstruction

aligned
 view patches
 G:/Qualite/Tuto/projections/Latex_ppot_000.dm3 Projection 1/66

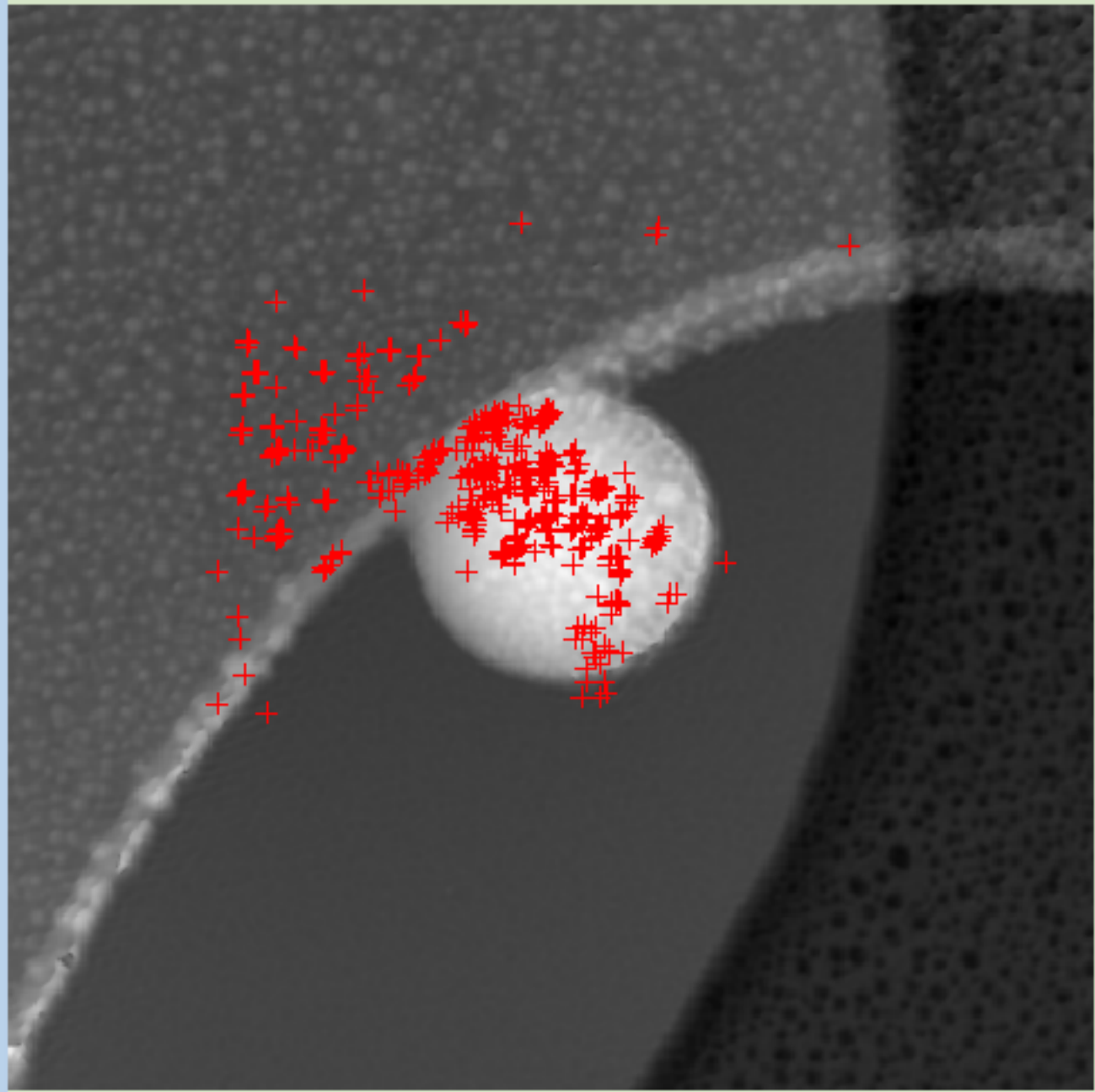


digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration

Pre processing Seeds Tracking **Geometry**

Compute



Après le calcul cocher "view patches" pour voir les marqueurs.

Le déplacement du slider permet de vérifier les marqueurs sur l'ensemble des projections

- 3. Output
- 4. Reconstruction

Load Save as



aligned view patches



G:/Qualite/Tuto/projections/Latex_ppot_018.dm3 Projection 19/66

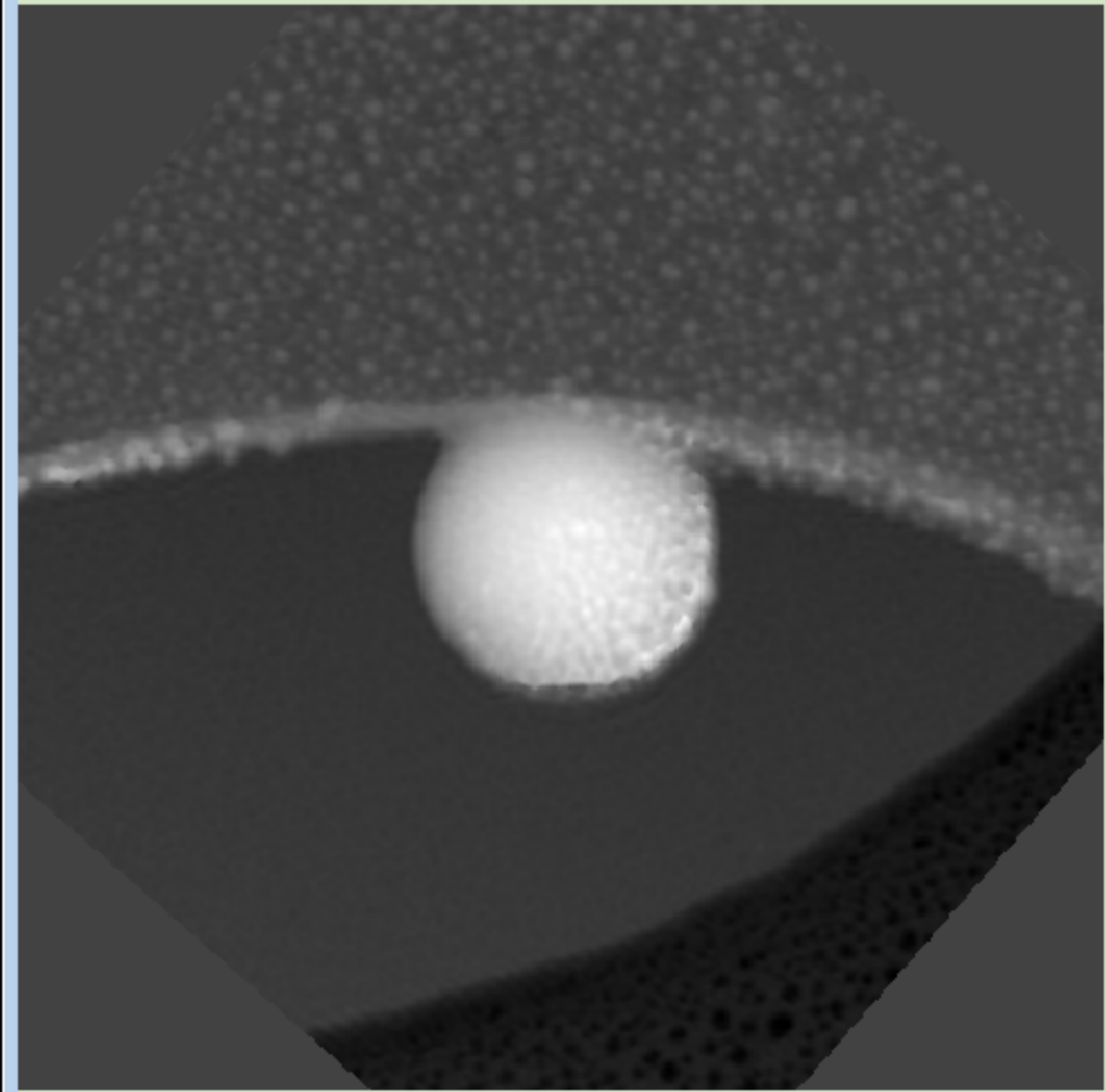


digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration

- Pre processing
- Seeds
- Tracking
- Geometry

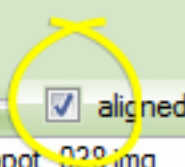
Compute



Décocher l'option "view patches" et cocher "Aligned" : le déplacement du slider permet de vérifier l'alignement des projections.

- 3. Output
- 4. Reconstruction

 Load
  Save as



aligned view patches

G:/Qualite/Tuto/projections/calibration_dst_align/align_Latex_ppot_039.png Projection 39/66

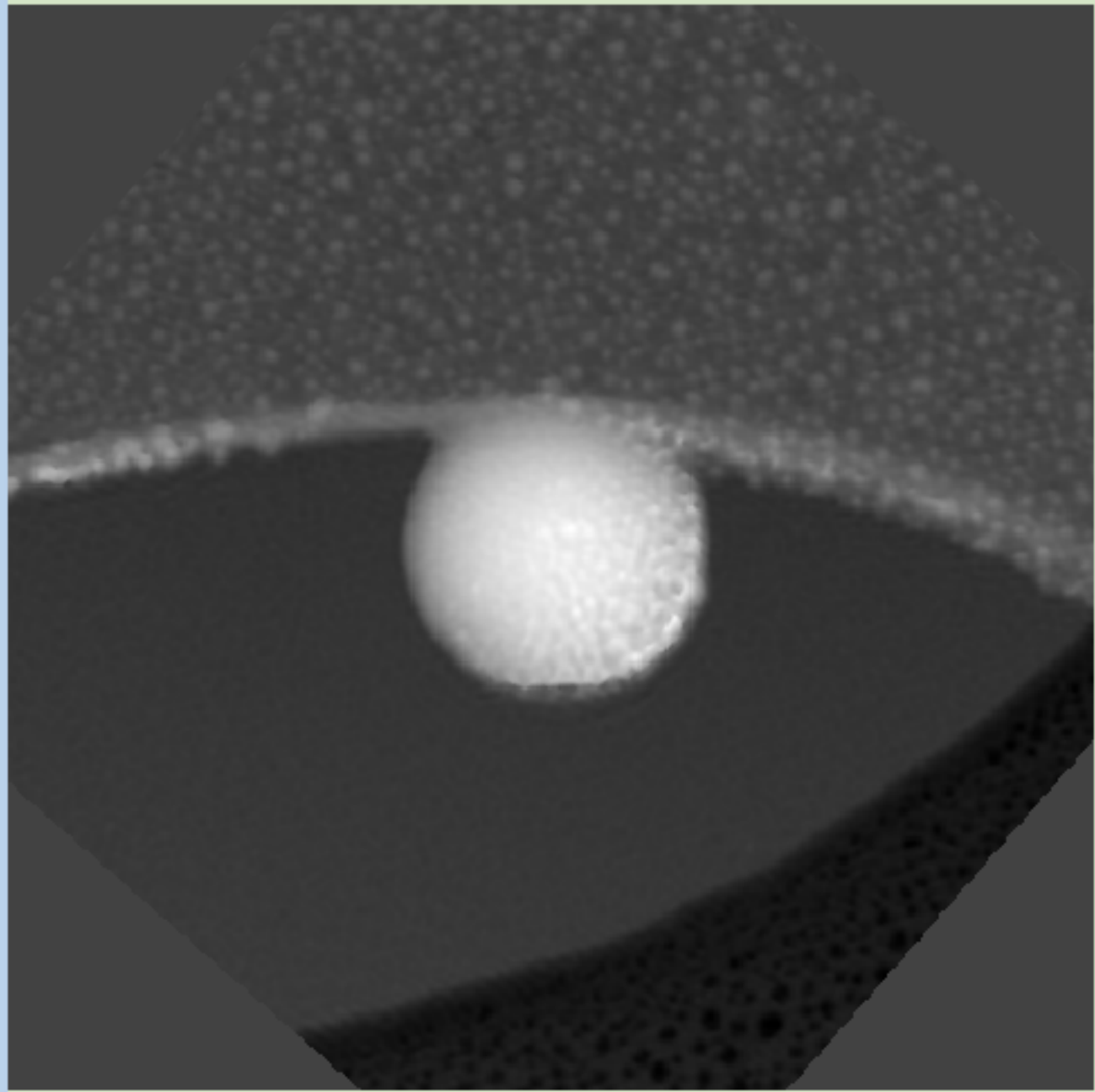


digiR3D - Registration and reconstruction plugin

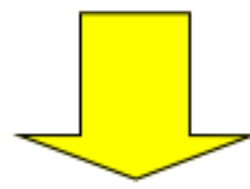
- 1. Inputs
- 2. Registration

Pre processing Seeds Tracking Geometry

Compute



Cliquer sur l'onglet "Output" pour définir le volume à reconstruire.



- 3. Output
- 4. Reconstruction



Load



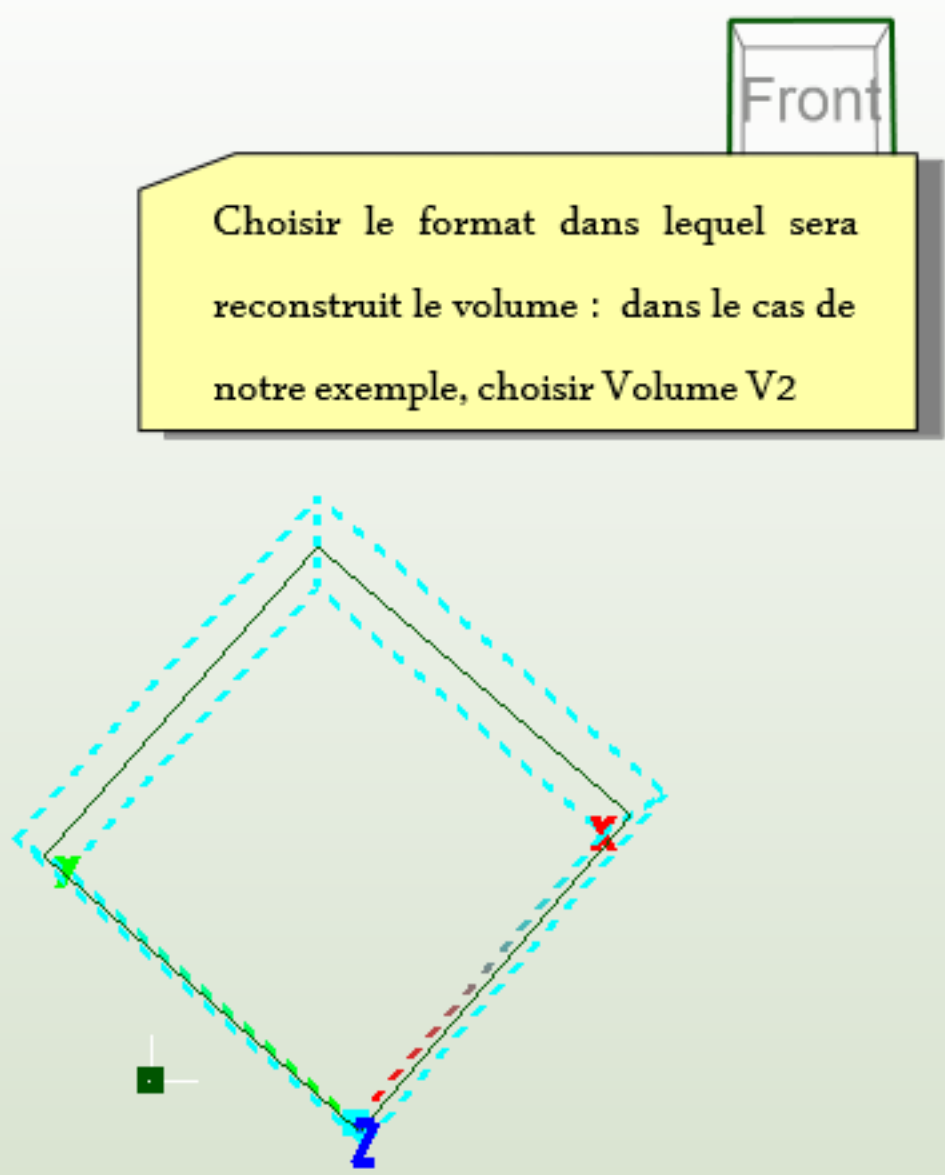
Save as

aligned view patches

G:/Qualite/Tuto/projections/calibration_dst_align/align_Latex_ppot_038.img Projection 39/66



Perspective



digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output

Output format: 2: Volume v2
 Output file: G:\...ions/

Dimension

	X	Y	Z
Center	500000 nm	00000.023842	99999.988079
Size	1000000 nm	1000000 nm	1000000 nm

Define ROI for reconstruction

Resolution (voxel)

X: 1 vox Y: 1 vox Z: 1 vox

Best 0.01 nm 0.05 nm 0.1 nm 0.5 nm 1 nm 5 nm Other...

Memory used: 4B [voxel size 1 mm x 1 mm x 1 mm] in 1 chunks



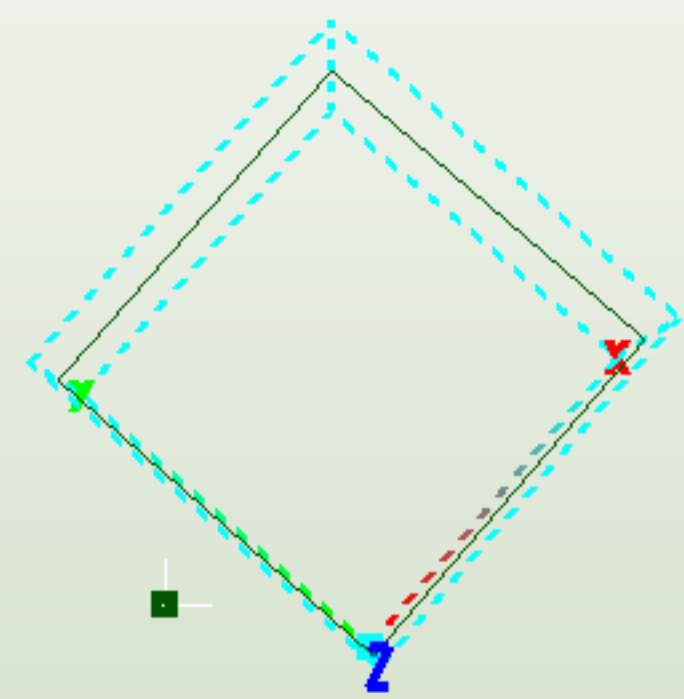
4. Reconstruction

Show Geometry
 Show Preview
 Load Save as



Perspective

Préciser le nom de fichier contenant les données de reconstruction



digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output

Output format: 2: Volume v2

Output file: G:/Qualite/Tuto/projections/

Dimension

Reset grid

	X	Y	Z
Center	500000 nm	.00000.023842	99999.988079
Size	1000000 nm	1000000 nm	1000000 nm

Define ROI for reconstruction

Resolution (voxel)

X: 1 vox, Y: 1 vox, Z: 1 vox

Best, 0.01 nm, 0.05 nm, 0.1 nm, 0.5 nm, 1 nm, 5 nm, Other...

Memory used: 4B [voxel size 1 mm x 1 mm x 1 mm] in 1 chunks



4. Reconstruction

Load Save as

Show Geometry

Show Preview

Save the reconstruction to a Volume File

« projections » Reconstruction Search Reconstruction

Organize New folder

Name	Date modified	Type
No items match your search.		

File name: **VolumeTuto.vol**

Save as type: Volume Files (*.vol)

Save Cancel

Renseigner le nom et cliquer sur Save

reconstruction plugin

re v2

uto/projections/

	X	Y	Z
Center	500000 nm	00000.023842	99999.988079
Size	1000000 nm	1000000 nm	1000000 nm

Construction

Y 1 vox Z 1 vox

0.05 nm 0.1 nm 0.5 nm 1 nm 5 nm Other...

size 1 mm x 1 mm x 1 mm] in 1 chunks

Preview

Show Geometry
 Show Preview

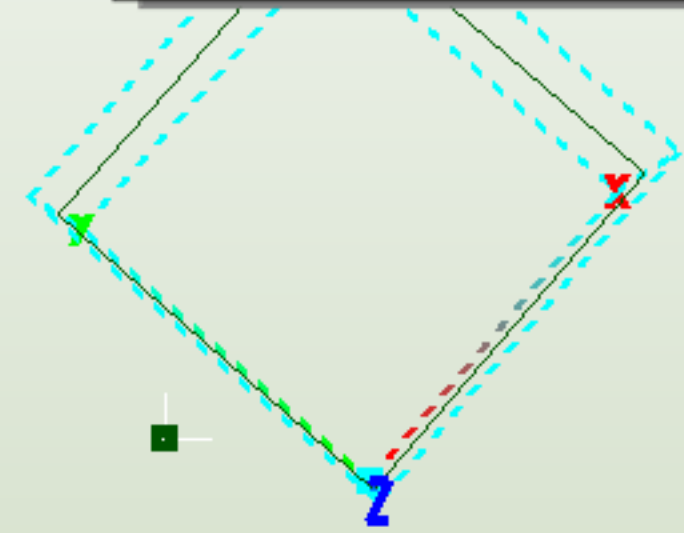
digisens



Perspective



Cliquer sur le bouton "Reset Grid" pour définir automatiquement les dimensions du volume.



digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output

Output format 2: Volume v2

Output file G:/Qualite/Tuto/projections/Reconstruction/VolumeTuto.vol

Dimension

Reset grid

	X	Y	Z
Center	500000 nm	.00000.023842	99999.988079
Size	1000000 nm	1000000 nm	1000000 nm

Define ROI for reconstruction

Resolution (voxel)

X 1 vox Y 1 vox Z 1 vox

Best 0.01 nm 0.05 nm 0.1 nm 0.5 nm 1 nm 5 nm Other...

Memory used: 4B [voxel size 1 mm x 1 mm x 1 mm] in 1 chunks

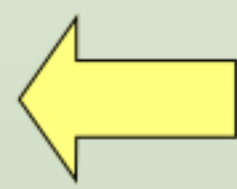
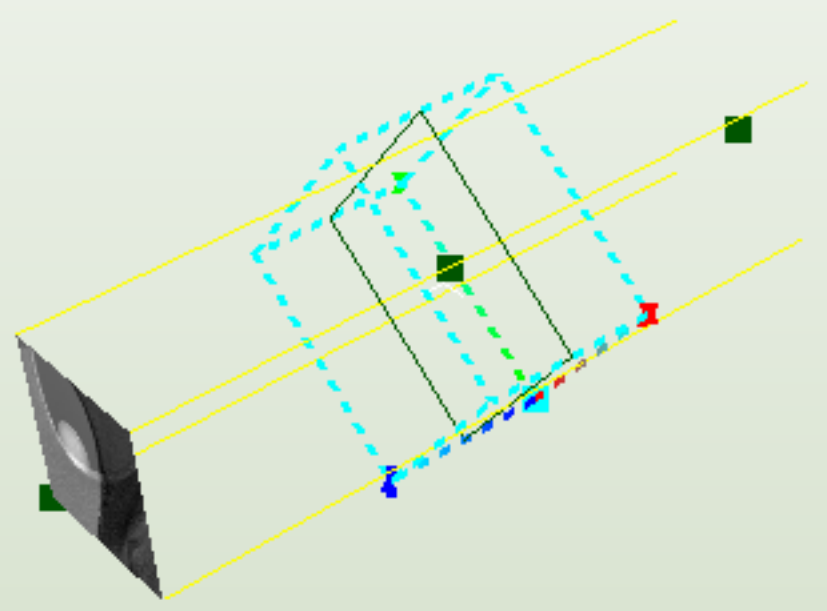


4. Reconstruction

Load
 Save as
 Show Geometry
 Show Preview



Perspective



Double cliquer sur la vue 3D pour faire apparaitre la géométrie

digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output

Output format 2: Volume v2

Output file G:/Qualite/Tuto/projections/Reconstruction/VolumeTuto.vol

Dimension

Reset grid

	X	Y	Z
Center	-0.12 nm	-0.12 nm	-0.12 nm
Size	620.842 nm	620.842 nm	440 nm

Define ROI for reconstruction

Resolution (voxel)

X	Y	Z
1 vox	1 vox	1 vox
Best	0.01 nm	0.05 nm
	0.1 nm	0.5 nm
	1 nm	5 nm
		Other...

Memory used: 4B [voxel size 620.842 nm x 620.842 nm x 440 nm] in 1 chunks



Preview

4. Reconstruction



Load



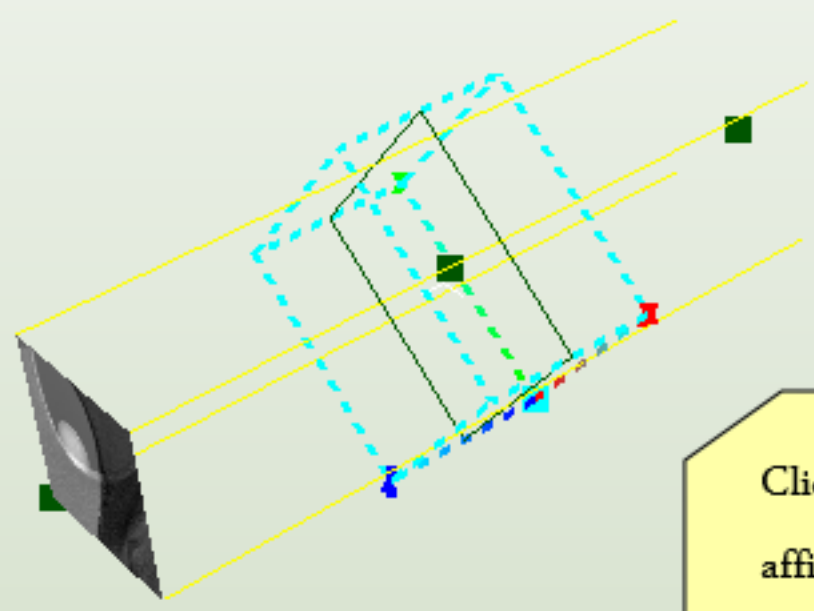
Save as

Show Geometry

Show Preview



Perspective



1. Inputs
2. Registration
3. Output

Output format 2: Volume v2

Output file G:/Qualite/Tuto/projections/Reconstruction/VolumeTuto.vol

Dimension

Reset grid

	X	Y	Z
Center	-0.12 nm	-0.12 nm	-0.12 nm
Size	620.842 nm	620.842 nm	440 nm

Define ROI for reconstruction

Resolution (voxel)

X 1 vox Y 1 vox Z 1 vox

Best 0.01 nm 0.05 nm 0.1 nm 0.5 nm 1 nm 5 nm Other...

Maximum size [620.842 nm x 620.842 nm x 440 nm] in 1 chunks



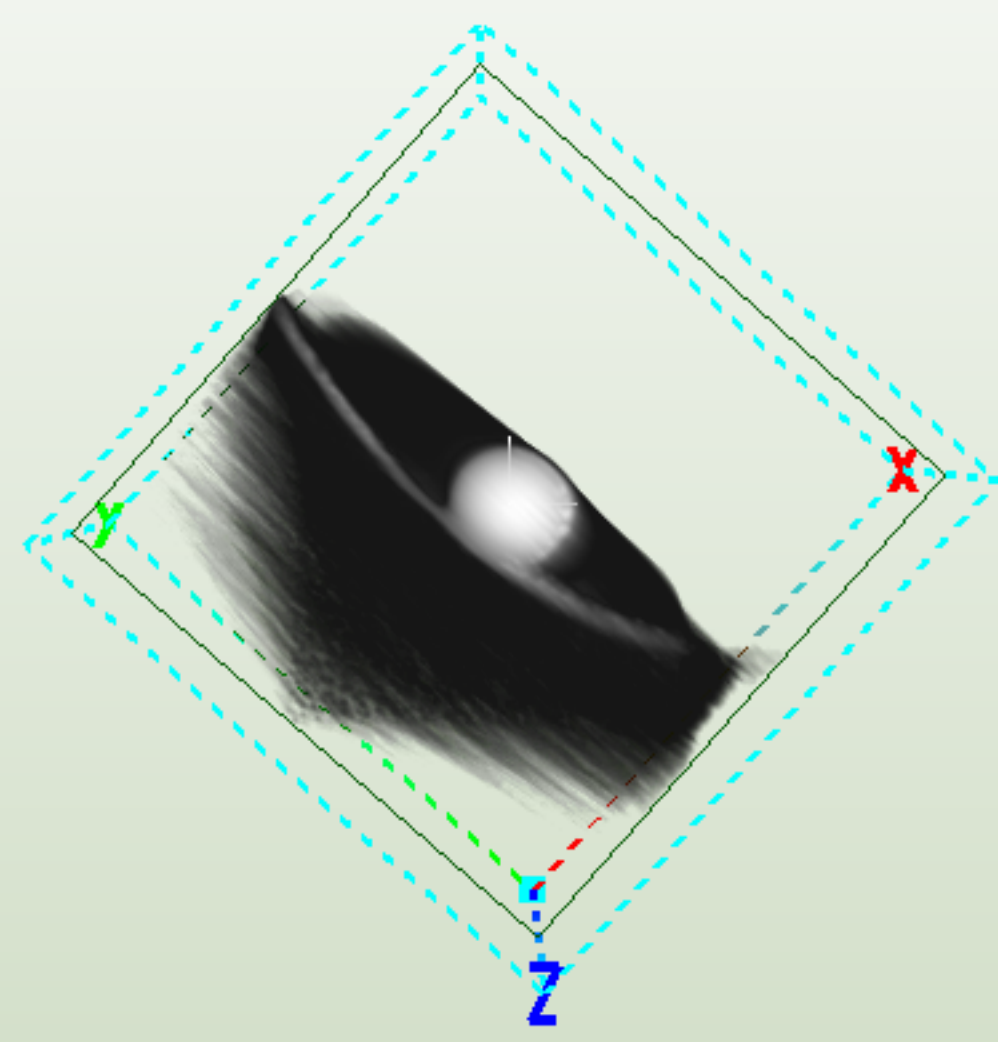
Cliquer sur le bouton Preview pour afficher une première reconstruction (non enregistrée sur le disque) avec toutes les projections et avec la résolution 256x256x256

4. Reconstruction

Show Geometry
 Show Preview
 Load Save as



Perspective



digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output

Output format 2: Volume v2

Output file G:/Qualite/Tuto/projections/Reconstruction/VolumeTuto.vol

Dimension

Reset grid

	X	Y	Z
Center	-0.12 nm	-0.12 nm	-0.12 nm
Size	620.842 nm	620.842 nm	440 nm

Define ROI for reconstruction

Resolution (voxel)

X 1 vox Y 1 vox Z 1 vox

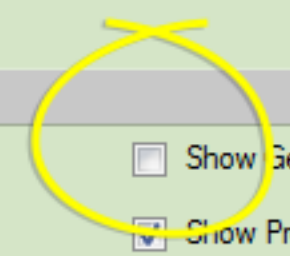
Best 0.01 nm 0.05 nm 0.1 nm 0.5 nm 1 nm 5 nm Other...

Memory used: 4B [voxel size 620.842 nm x 620.842 nm x 440 nm] in 1 chunks



Décocher l'option "Show geometry" pour n'avoir que le volume dans la vue 3D

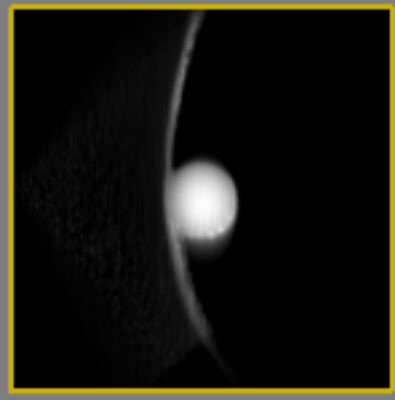
Load Save as



Show Geometry Show Preview

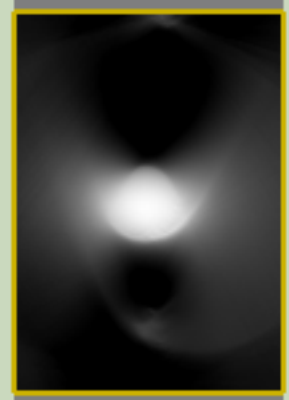


Perspective



Z = 0.000

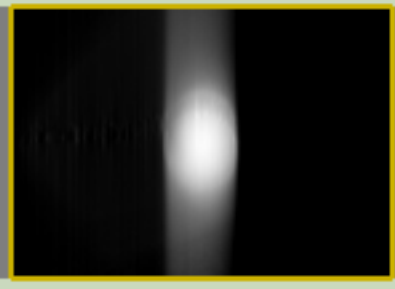
> Plane



X = 0.000

0.001

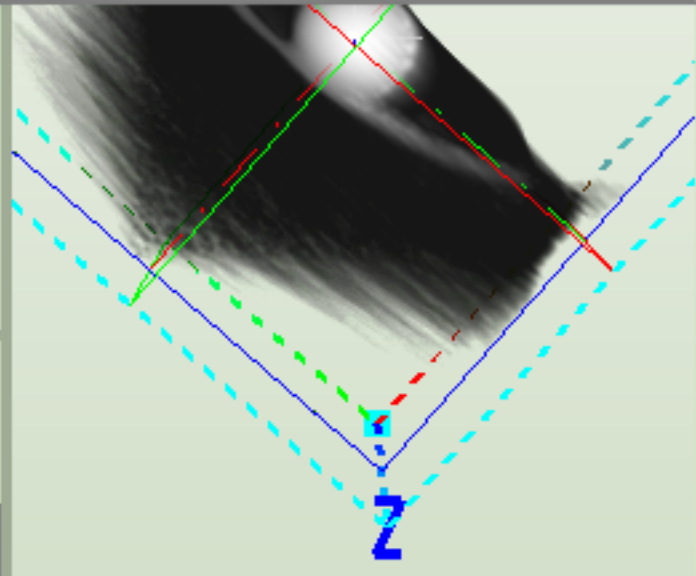
> plane



Y = 0.000

0.001

Cocher l'option "Define ROI for reconstruction" pour définir la région qui sera reconstruite



digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output

Output format 2: Volume v2

Output file G:/Qualite/Tuto/projections/Reconstruction/VolumeTuto.vol

Dimension

Reset grid

X

Y

Z

Center

-0.12 nm

-0.12 nm

-0.12 nm

Size

620.842 nm

620.842 nm

440 nm

Define ROI for reconstruction

Resolution (voxel)

X 1 vox

Y 1 vox

Z 1 vox

Best

0.01 nm

0.05 nm

0.1 nm

0.5 nm

1 nm

5 nm

Other...

Memory used: 4B [voxel size 620.842 nm x 620.842 nm x 440 nm] in 1 chunks



Preview

4. Reconstruction



Load



Save as

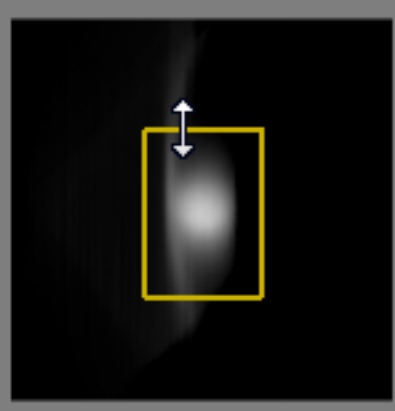
Show Geometry

Show Preview



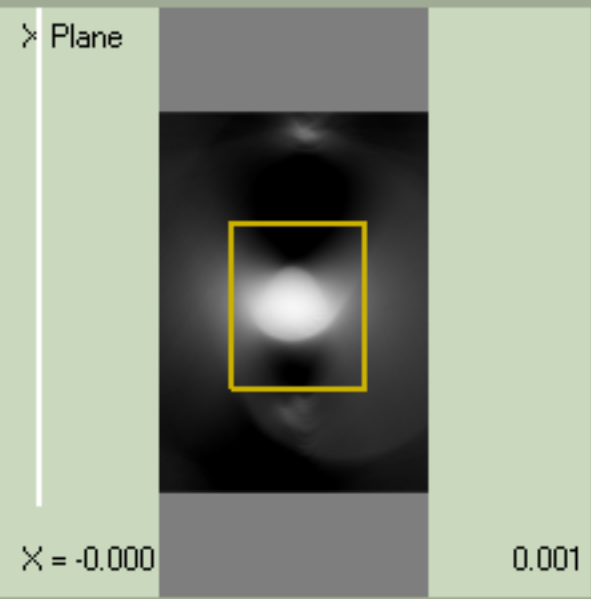


Perspective

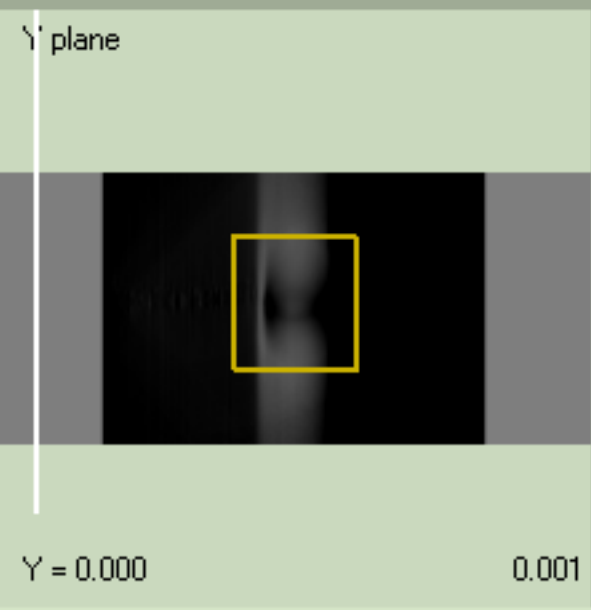


A l'aide la souris définir la Région d'intérêt sur les vues 2D

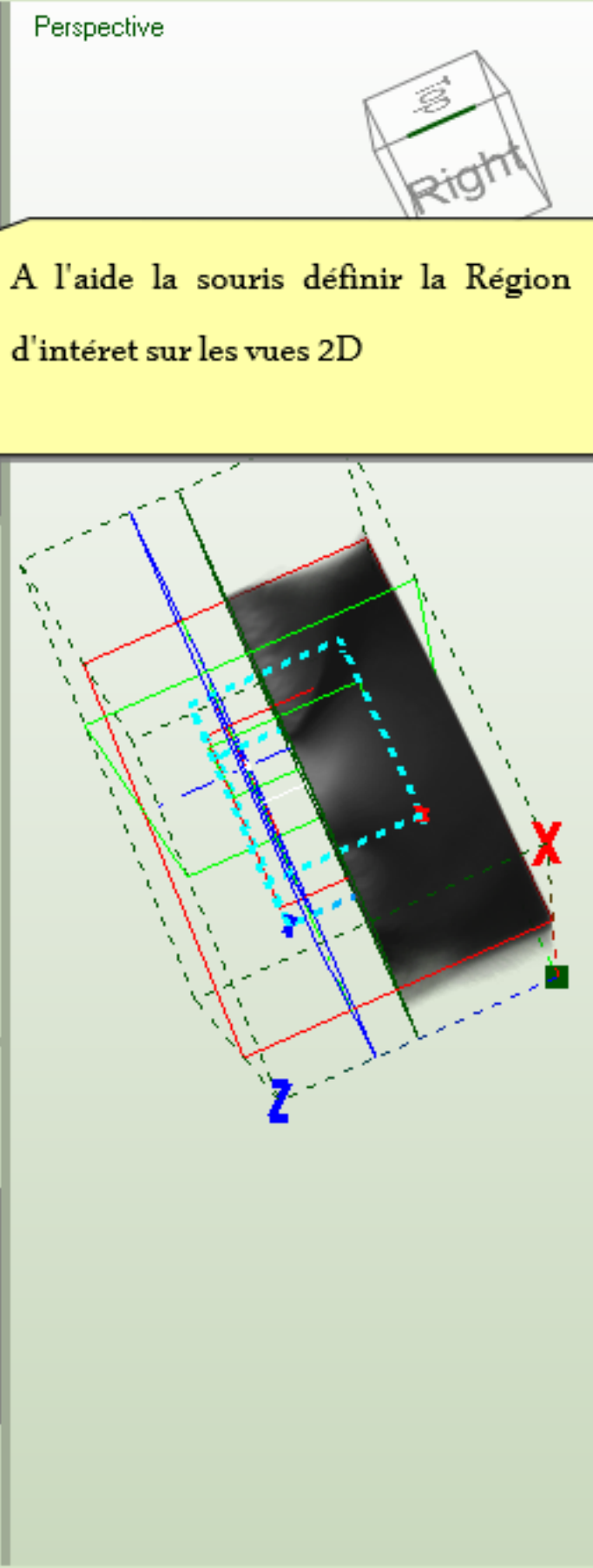
Z = 0.000 0.001



X = -0.000 0.001



Y = 0.000 0.001



digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output

Output format 2: Volume v2

Output file G:/Qualite/Tuto/projections/Reconstruction/VolumeTuto.vol

Dimension

Reset grid

	X	Y	Z
Center	6.352817 nm	-2.605684 nm	-8.840871 nm
Size	194.894 nm	273.451 nm	218.008 nm

Define ROI for reconstruction

Resolution (voxel)

X	Y	Z
1 vox	1 vox	1 vox

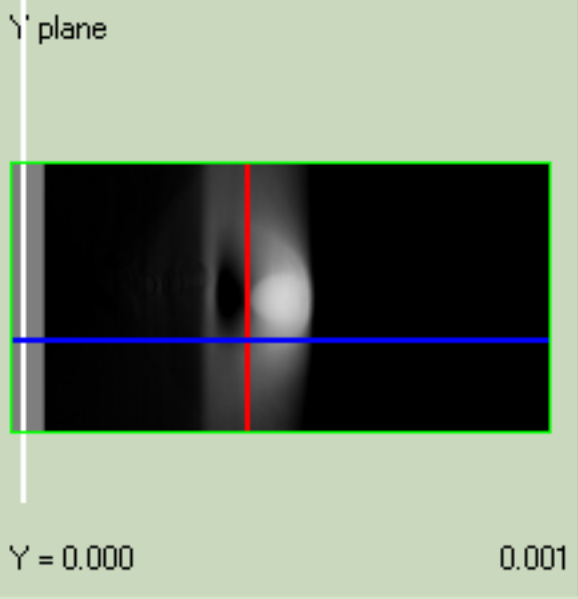
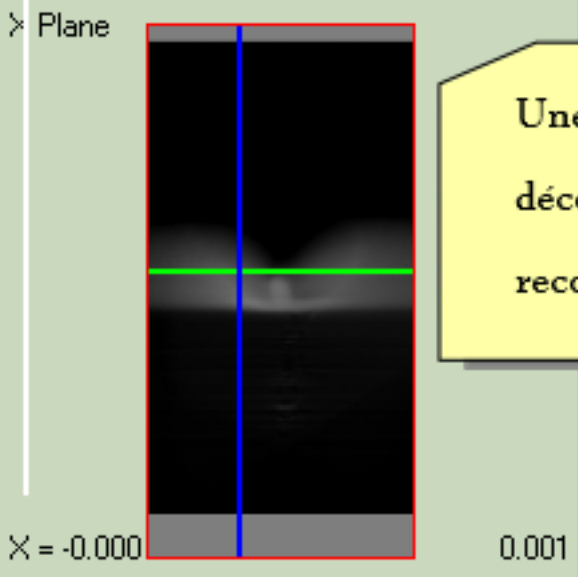
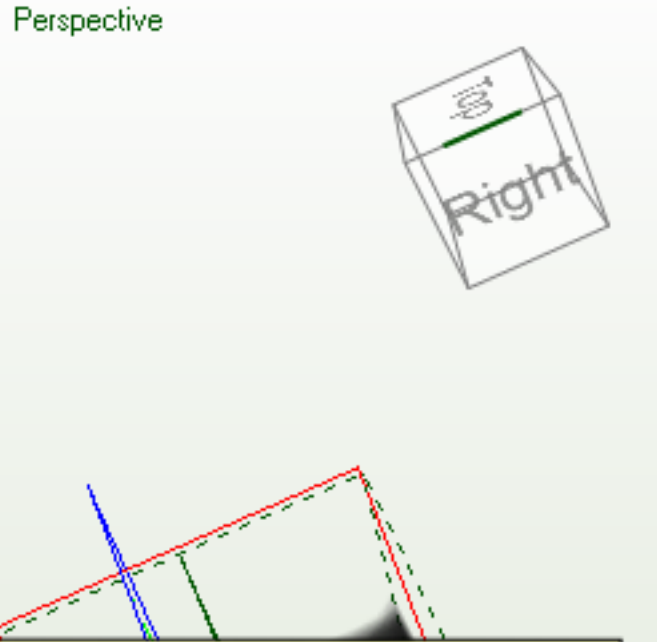
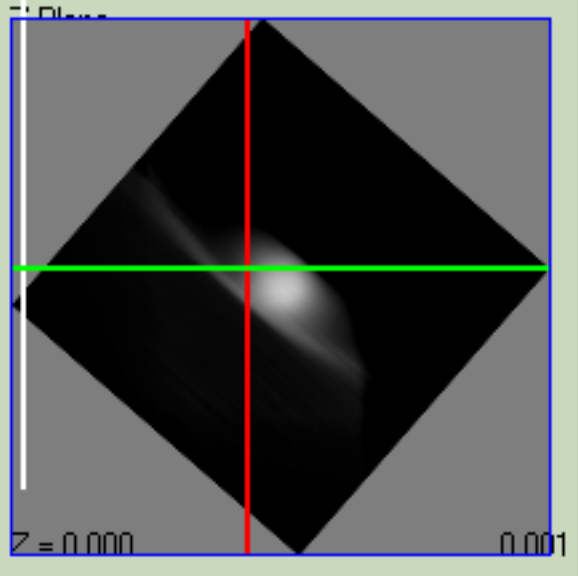
Best 0.01 nm 0.05 nm 0.1 nm 0.5 nm 1 nm 5 nm Other...

Memory used: 4B [voxel size 194.894 nm x 273.451 nm x 218.008 nm] in 1 chunks



4. Reconstruction

Load Save as Show Geometry Show Preview



Une fois la région d'interet définie, décocher l'option "define ROI for reconstruction".

digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output

Output format 2: Volume v2

Output file G:/Qualite/Tuto/projections/Reconstruction/VolumeTuto.vol

Dimension

Reset grid

	X	Y	Z
Center	6.352817 nm	-2.605684 nm	-8.840871 nm
Size	195 nm	273 nm	218 nm

Define ROI for reconstruction

Resolution (voxel)

X	Y	Z
195 vox	273 vox	218 vox

Best 0.01 nm 0.05 nm 0.1 nm 0.5 nm 1 nm 5 nm Other...

Memory used: 44.3 MB [voxel size 1 nm x 1 nm x 1 nm] in 12 chunks



4. Reconstruction

Show Geometry
 Show Preview

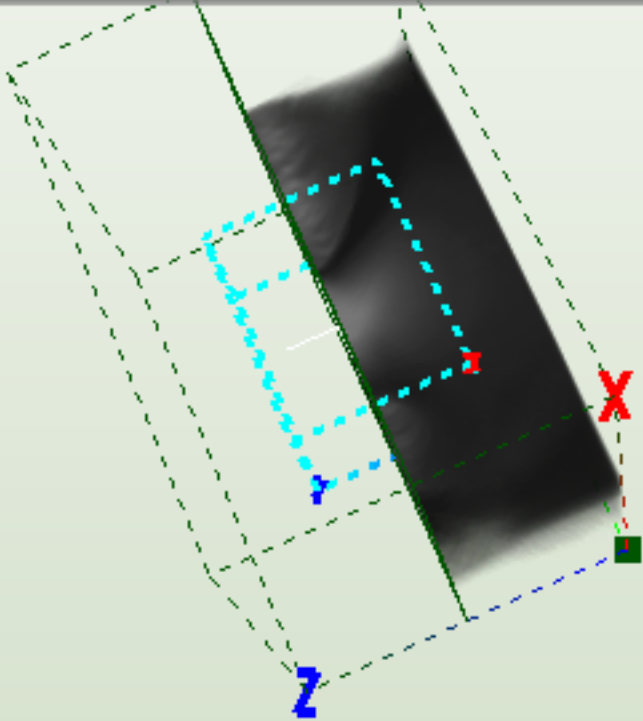
Load Save as



Perspective

Il est possible de revenir à la vue 3D
seule en changeant du mode.

Cliquer sur l'icone "switch mode" et
sélectionner le dernier mode



digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output

Output format 2: Volume v2

Output file G:/Qualite/Tuto/projections/Reconstruction/VolumeTuto.vol

Dimension

Reset grid	X	Y	Z
Center	6.352817 nm	-2.605684 nm	-8.840871 nm
Size	195 nm	273 nm	218 nm

Define ROI for reconstruction

Resolution (voxel)

X	Y	Z
195 vox	273 vox	218 vox

Best 0.01 nm 0.05 nm 0.1 nm 0.5 nm 1 nm 5 nm Other...

Memory used: 44.3 MB [voxel size 1 nm x 1 nm x 1 nm] in 12 chunks

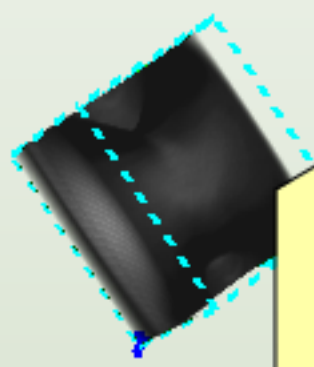


4. Reconstruction

Show Geometry
 Show Preview
 Load Save as



Perspective



Cliquer sur le bouton Preview pour avoir une seconde reconstruction et modifier éventuellement la région d'intérêt.

digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output

Output format 2: Volume v2

Output file G:/Qualite/Tuto/projections/Reconstruction/VolumeTuto.vol

Dimension

Reset grid

	X	Y	Z
Center	6.352817 nm	-2.605684 nm	-8.840871 nm
Size	195 nm	273 nm	218 nm

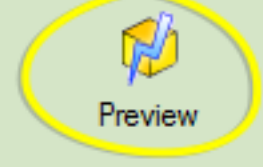
Define ROI for reconstruction

Resolution (voxel)

X	Y	Z
195 vox	273 vox	218 vox

1 nm 0.05 nm 0.1 nm 0.5 nm 1 nm 5 nm Other...

3 MB [voxel size 1 nm x 1 nm x 1 nm] in 12 chunks



4. Reconstruction

Show Geometry
 Show Preview

Load Save as



Perspective



digiR3D - Registration and reconstruction plugin

1. Inputs

2. Registration

3. Output

Output format 2: Volume v2

Output file G:/Qualite/Tuto/projections/Reconstruction/VolumeTuto.vol

Dimension

	X	Y	Z
Center	6.352817 nm	-2.605684 nm	-8.840871 nm
Size	195 nm	273 nm	218 nm

Define ROI for reconstruction

Resolution (voxel)

X 195 vox Y 273 vox Z 218 vox

Best 0.01 nm 0.05 nm 0.1 nm 0.5 nm 1 nm 5 nm Other...

Memory used: 44.3 MB [voxel size 1 nm x 1 nm x 1 nm] in 12 chunks



Preview

4. Reconstruction



Load



Save as

Show Geometry

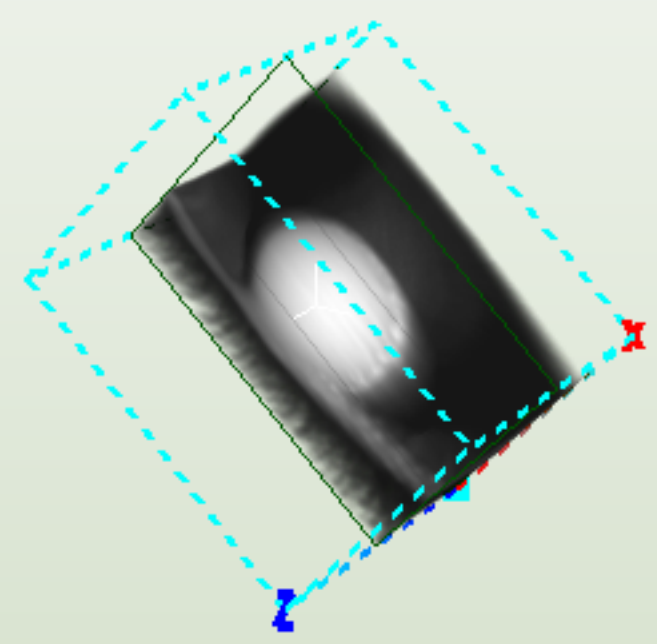
Show Preview

Cliquer sur le bouton Best pour définir la meilleure résolution du volume.

Il est possible de modifier cette résolution soit en changeant la taille voxel (grâce aux différents boutons) soit en renseignant directement la résolution désirée.



Perspective



digiR3D - Registration and reconstruction plugin

1. Inputs
2. Registration
3. Output

Output format 2: Volume v2

Output file G:/Qualite/Tuto/projections/Reconstruction/VolumeTuto.vol

Dimension

Reset grid

	X	Y	Z
Center	6.352817 nm	-2.605684 nm	-8.840871 nm
Size	195 nm	273 nm	218 nm

Define ROI for reconstruction

Resolution (voxel)

X	Y	Z
195 vox	273 vox	218 vox

Best 0.01 nm 0.05 nm 0.1 nm 0.5 nm 1 nm 5 nm Other...

Cliquer sur l'onglet Reconstruction pour définir l'algorithme de reconstruction et appliquer d'éventuels filtres



4. Reconstruction

Show Geometry
 Show Preview
 Load Save as

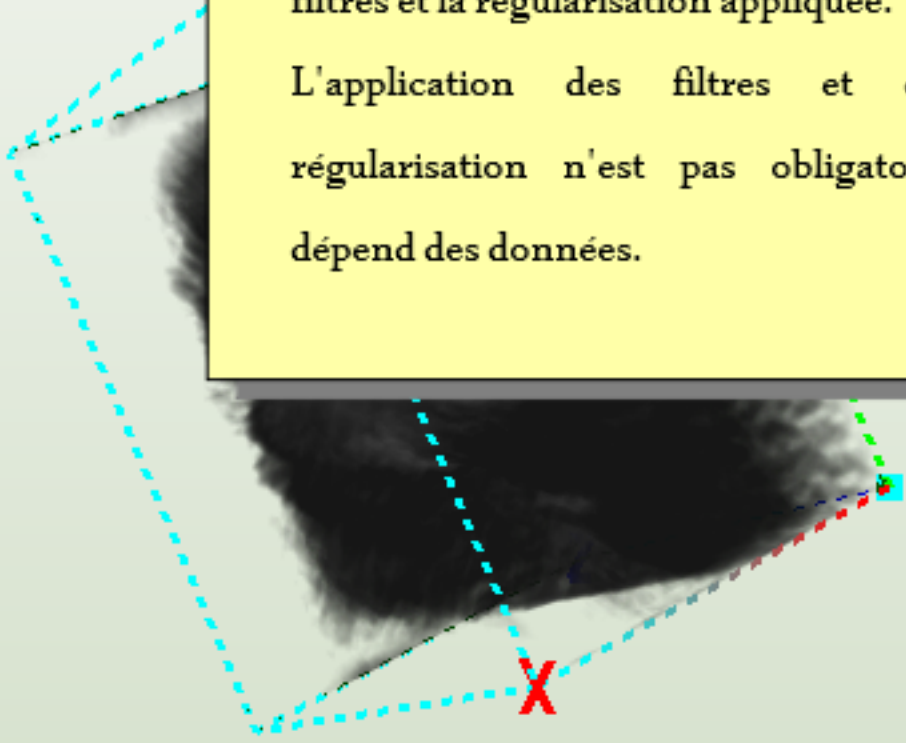


Perspective



Avant de lancer la reconstruction, il est nécessaire de définir quelques paramètres tels que l'algorithme itératif utilisé, les filtres et la régularisation appliquée.

L'application des filtres et de la régularisation n'est pas obligatoire et dépend des données.



digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output
- 4. Reconstruction

Method

Projections subset

Iteration number

Convergence speed

[Expert] Pre-processing for reconstruction

Median filter Kemel size

Gaussian denoising filter Kemel size

Edge-preserving denoising Iteration number

[Expert] Regularization

Method

Lambda



Preview



Reconstruction



Load



Save as

Show Geometry

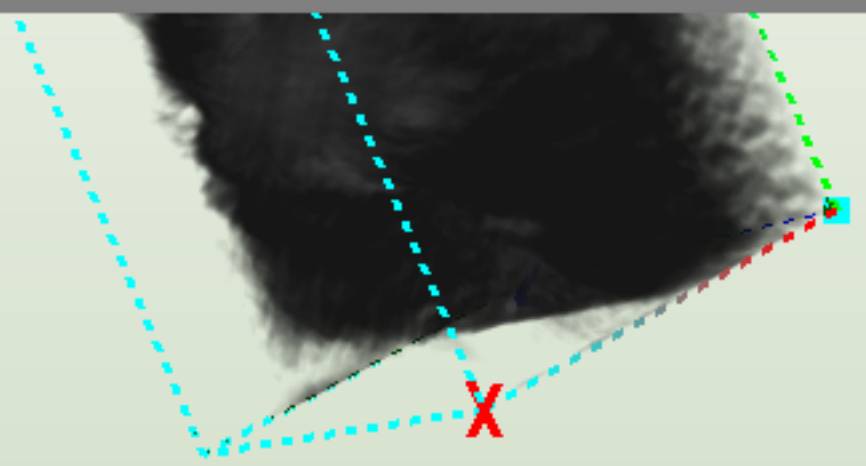
Show Preview

Perspective

Dans notre exemple, choisir dans la liste la méthode itérative OSSART : le paramètre "projections subset" apparait.

Indiquer '0' comme valeur de ce paramètre (ce qui revient à choisir une valeur automatiquement).

Choisir 15 itérations et 0 pour le paramètre "Convergence Speed" (ce qui revient à choisir une valeur automatique).



digir3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output
- 4. Reconstruction

Method: **OSSART**

Projections subset: Auto

Iteration number: 15

Convergence speed: Auto

[Expert] Pre-processing for reconstruction

- Median filter (Kernel size: 3)
- Gaussian denoising filter (Kernel size: 3)
- Edge-preserving denoising (Iteration number: 2)

Reset to defaults

[Expert] Regularization

Method: SNN

Lambda: 0.001

Preview

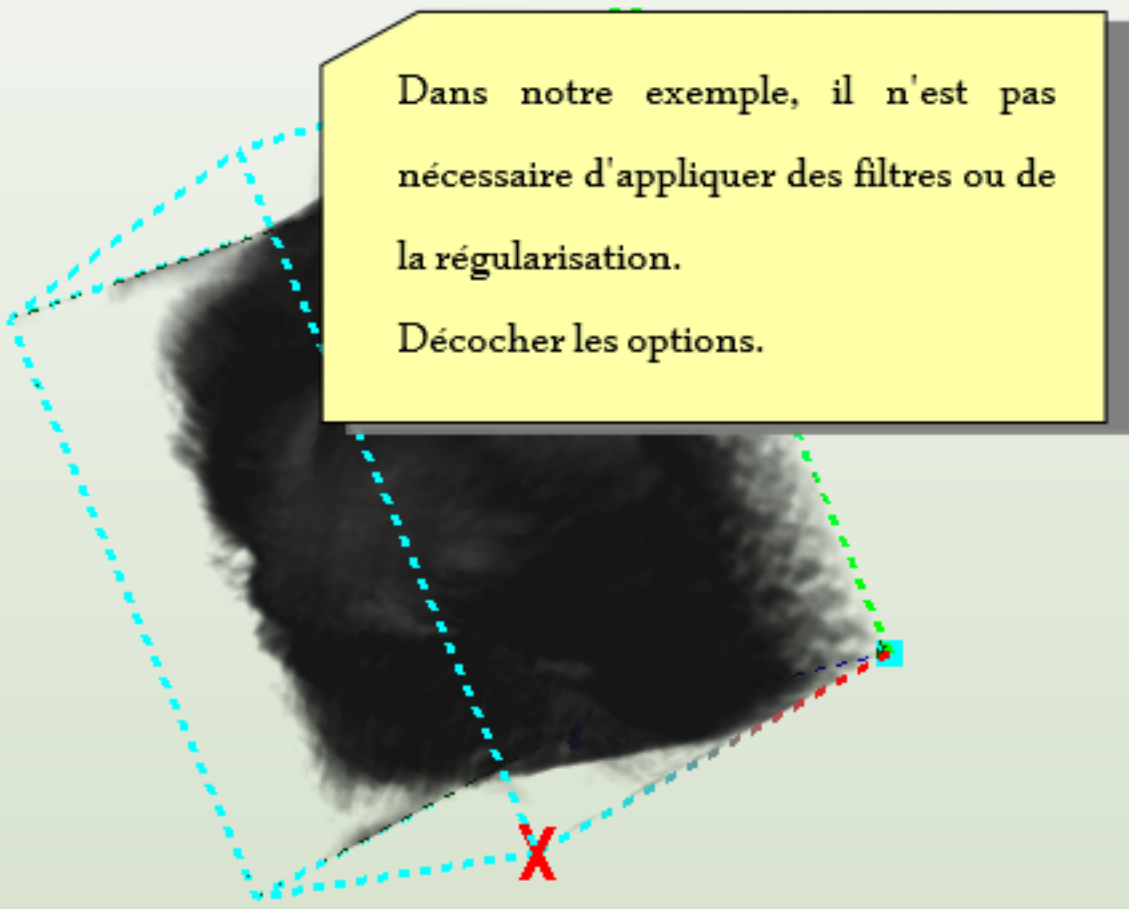
Reconstruction

Load Save as

Show Geometry
 Show Preview



Perspective



Dans notre exemple, il n'est pas nécessaire d'appliquer des filtres ou de la régularisation.
Décocher les options.

digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output
- 4. Reconstruction

Method: OSSART

Projections subset: Auto

Iteration number: 15

Convergence speed: Auto

[Expert] Pre-processing for reconstruction

[Expert] Regularization



Preview



Reconstruction



Load



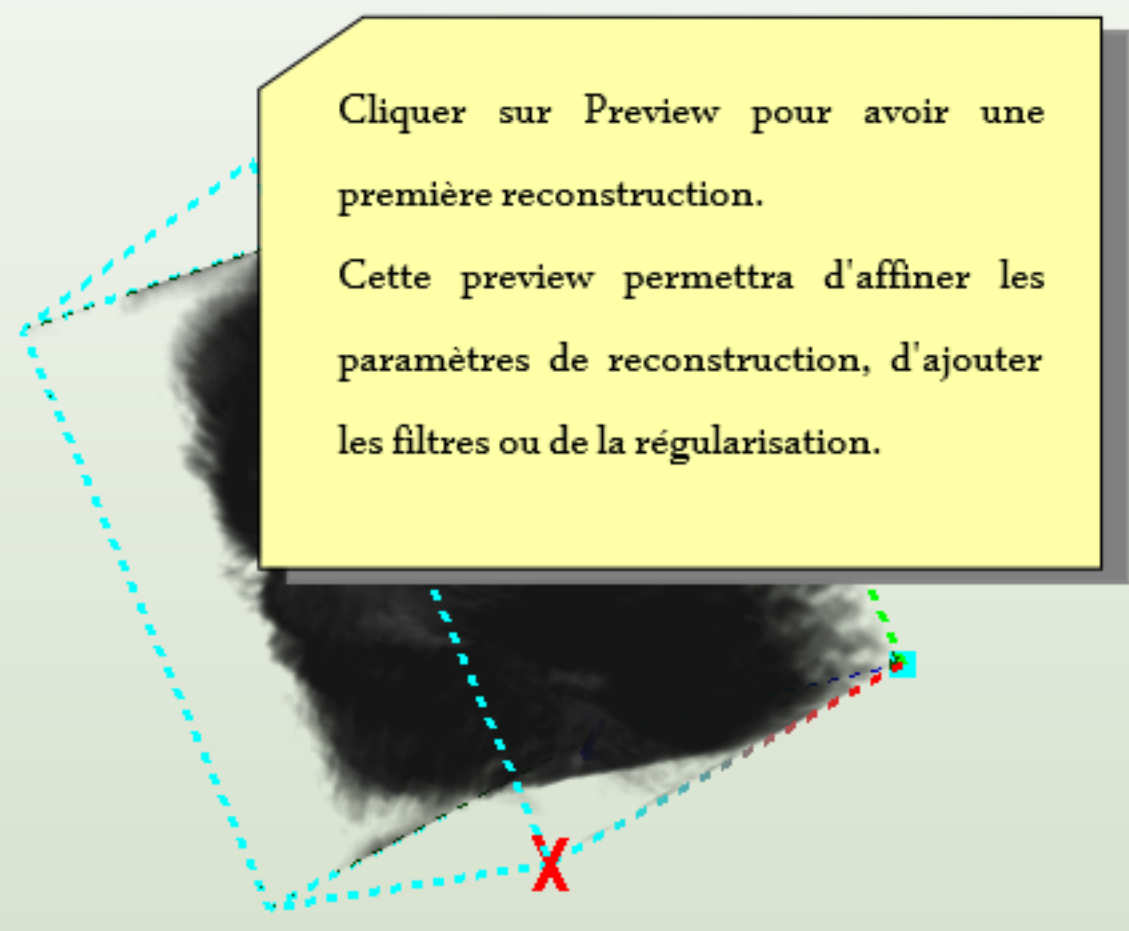
Save as

Show Geometry

Show Preview



Perspective



Cliquer sur Preview pour avoir une première reconstruction.

Cette preview permettra d'affiner les paramètres de reconstruction, d'ajouter les filtres ou de la régularisation.

digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output
- 4. Reconstruction

Method

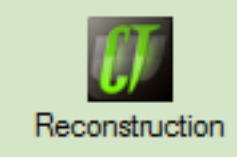
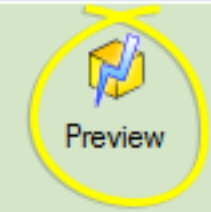
Projections subset

Iteration number

Convergence speed

[Expert] Pre-processing for reconstruction

[Expert] Regularization

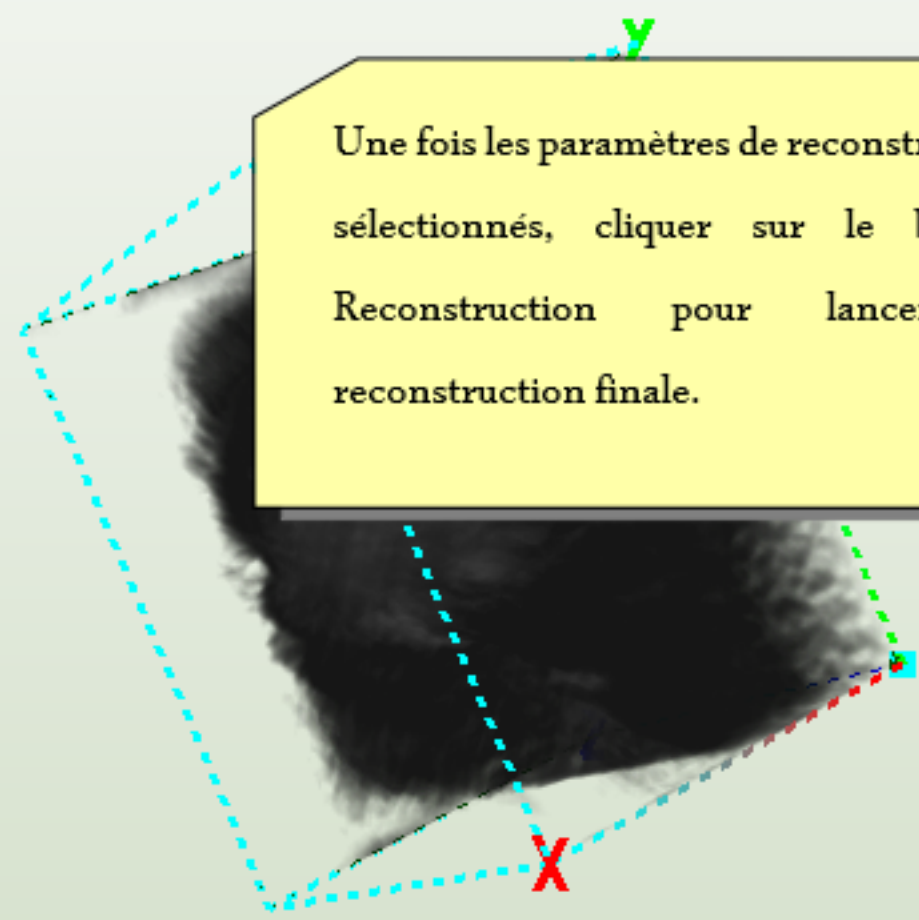


Show Geometry

Show Preview



Perspective



Une fois les paramètres de reconstruction sélectionnés, cliquer sur le bouton Reconstruction pour lancer la reconstruction finale.

digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output
- 4. Reconstruction

Method

Projections subset

Iteration number

Convergence speed

[Expert] Pre-processing for reconstruction

[Expert] Regularization



Show Geometry

Show Preview

Start reconstruct...

Final settings

Reconstructing with	GPU
Input projections	G:/Qualite/Tuto/projections/Latex_ppot_000.dm3 ... G:/Qualite/Tuto/projections/Latex_ppot_065.dm3
Volume resolution	195 x 273 x 218 [voxels]
Beam Hardening Value	0
Output file	G:/Qualite/Tuto/projections/Reconstruction/VolumeTuto.vol
Memory limit	14.4 GB
Disk space	available: 314.3 GB - required: 44.3 MB

Proceed ... **Cancel**

digiR3D - Registration and reconstruction plugin

1. Inputs
2. Registration
3. Output
4. Reconstruction

Method:

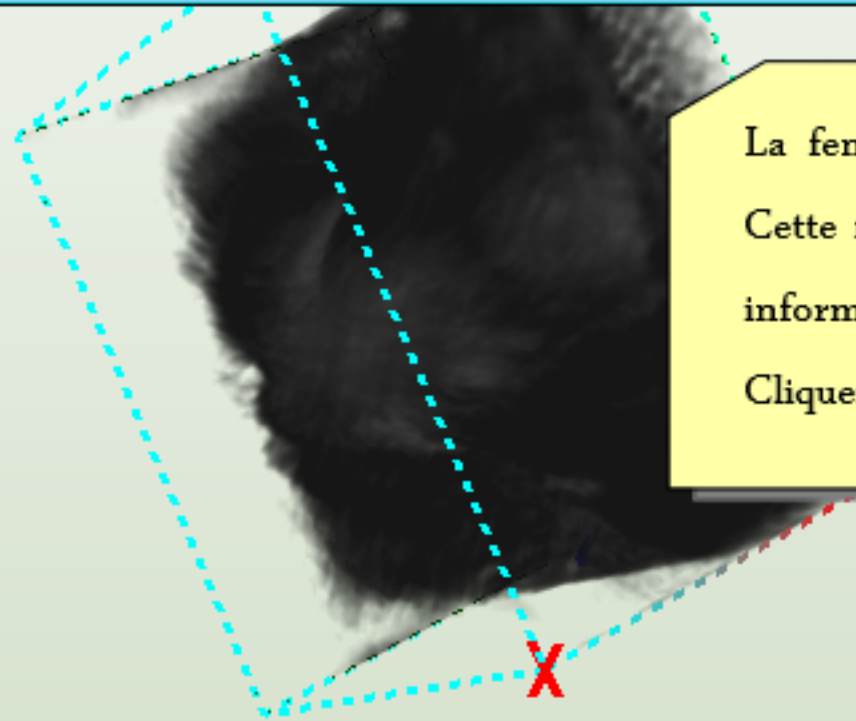
Projections subset:

Iteration number:

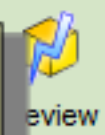
Convergence speed:

[Expert] Pre-processing for reconstruction

[Expert] Regularization



La fenêtre "Final Settings" apparait.
Cette fenêtre reprend l'ensemble des informations de la reconstruction.
Cliquer sur Proceed.



Review

Reconstruction



Load



Save as

Show Geometry

Show Preview

47.9% Reconstructing VolumeTuto.vol pass 1-3/3 iter. ...

Mean step	0.003 sec
Estimated total duration	7s
Estimated remaining time	4s
Estimated end at	10/12/2010 @ 11h04m30s

47%

Cancel

digIR3D - Registration and reconstruction plugin

1. Inputs
2. Registration
3. Output
4. Reconstruction

Method: OSSART

Projections subset: Auto

Iteration number: 15

Convergence speed: Auto

[Expert] Pre-processing for reconstruction

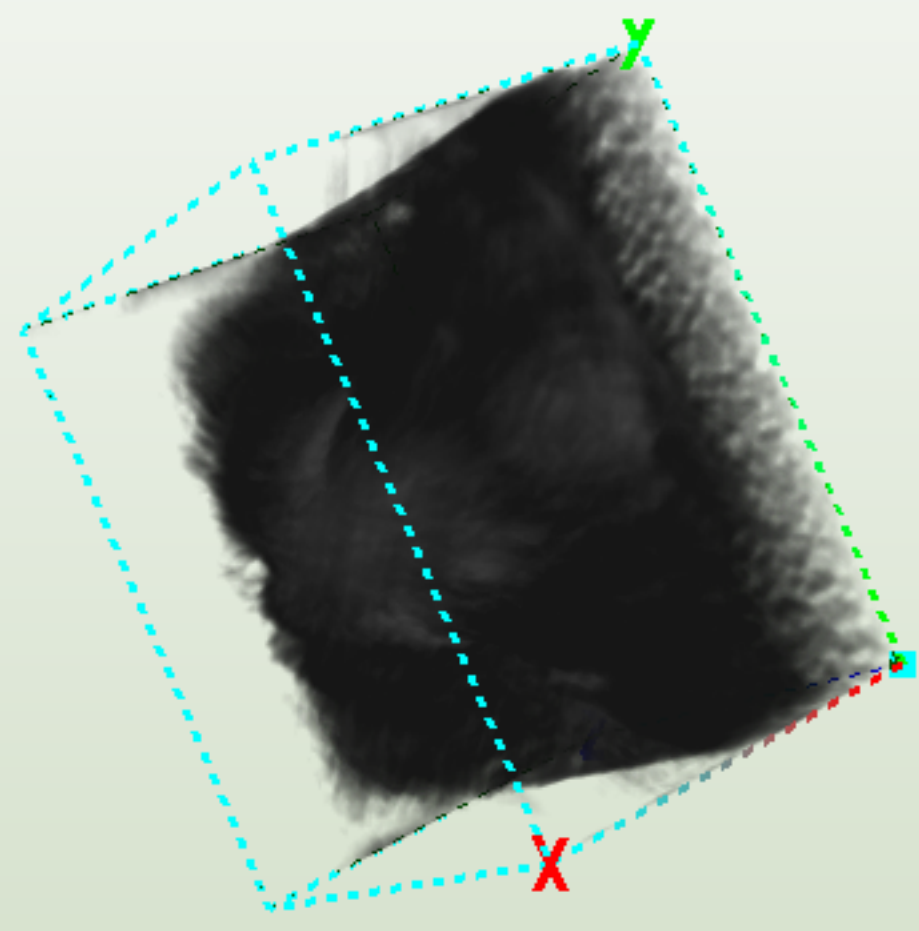
[Expert] Regularization

Preview Reconstruction

Load Save as

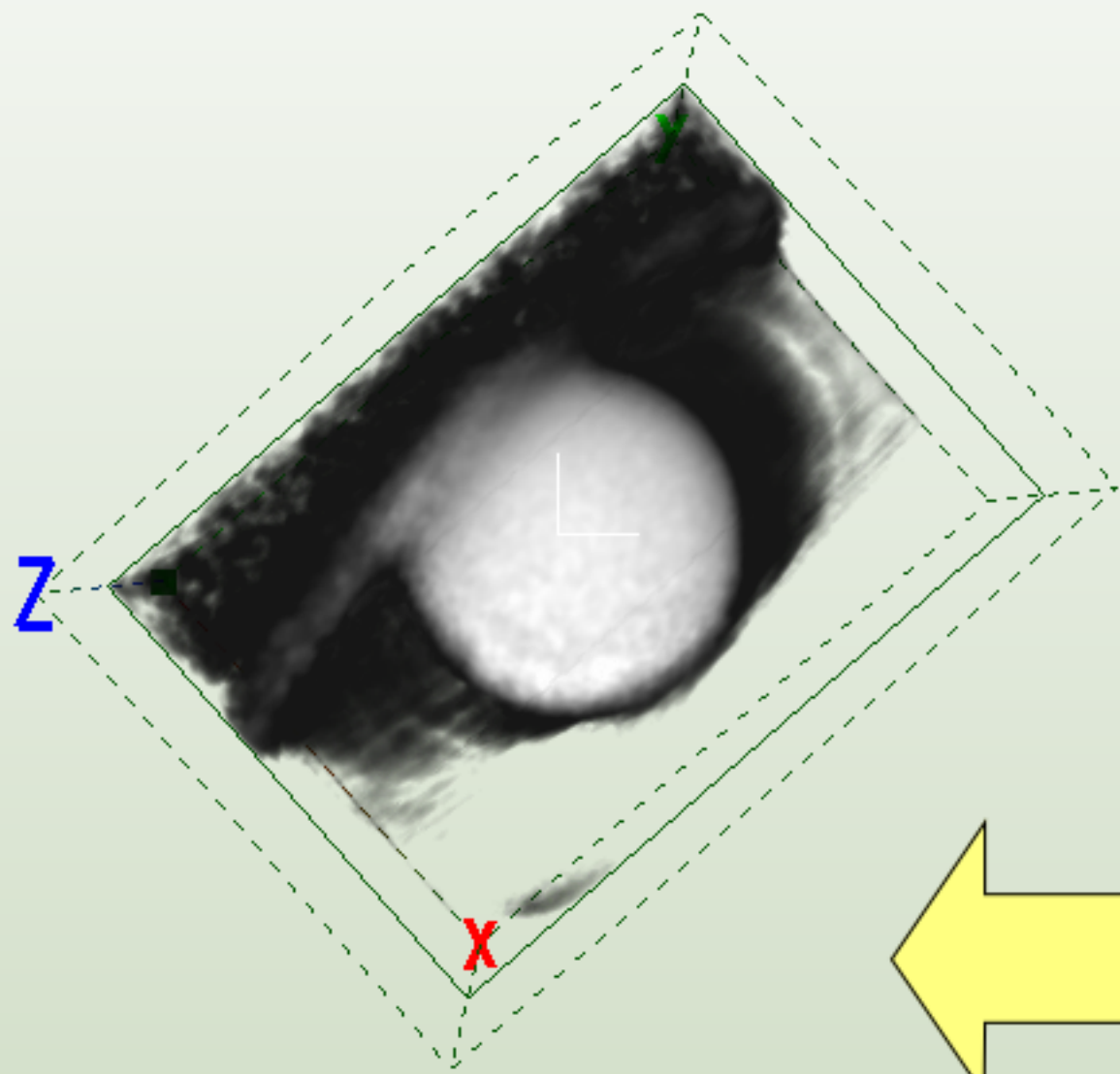
Show Geometry

Show Preview





Perspective



digiR3D - Registration and reconstruction plugin

- 1. Inputs
- 2. Registration
- 3. Output

Output format 2: Volume v2

Output file G:/Qualite/Tuto/projections/Reconstruction/VolumeTuto.vol

Dimension

Reset grid

	X	Y	Z
Center	6.352817 nm	-2.605684 nm	-8.840871 nm
Size	195 nm	273 nm	218 nm

Define ROI for reconstruction

Resolution (voxel)

X	Y	Z
195 vox	273 vox	218 vox

Best 0.01 nm 0.05 nm 0.1 nm 0.5 nm 1 nm 5 nm Other...

Memory used: 44.3 MB [voxel size 1 nm x 1 nm x 1 nm] in 12 chunks



La reconstruction terminée, le volume s'affiche dans la vue 3D.

4. Reconstruction

Load Save as

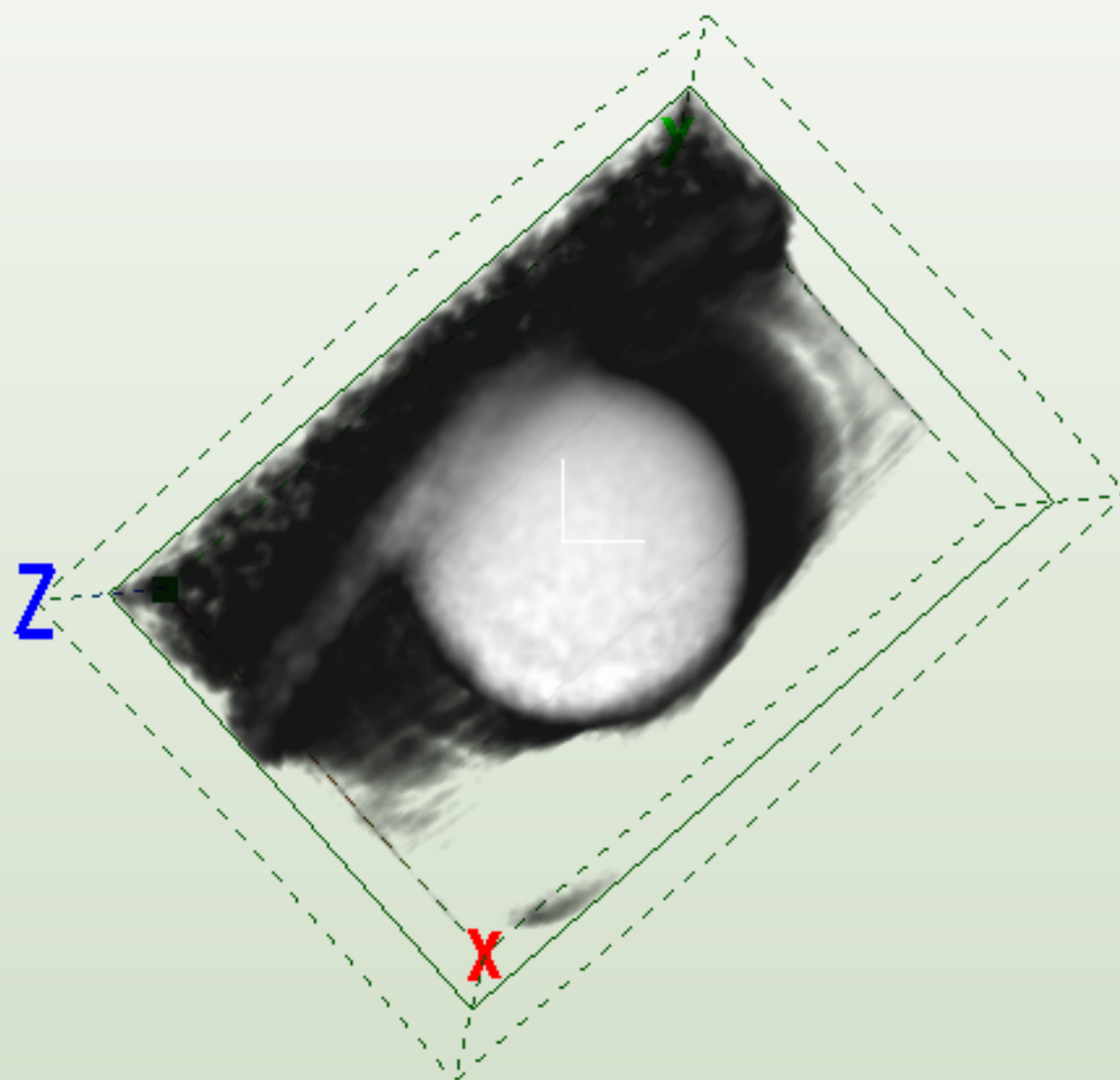
Show Geometry

Show Preview



Perspective

Front



digiR3D - Regist

 1. Inputs
 2. Registra
 3. Output

Output fo

Output fil

Dimens

Reset

Si la reconstruction est correcte, vous pouvez fermer le plugin DigiR3D par la croix et analyser la reconstruction, sinon vous pouvez changer les parametres de l'onglet Output, Reconstruction et procéder à une nouvelle reconstruction.

Size 195 nm 273 nm 218 nm

 Define ROI for reconstruction

Resolution (voxel)

X 195 vox Y 273 vox Z 218 vox

Best 0.01 nm 0.05 nm 0.1 nm 0.5 nm 1 nm 5 nm Other...

Memory used: 44.3 MB [voxel size 1 nm x 1 nm x 1 nm] in 12 chunks



Preview

4. Reconstruction



Load



Save as

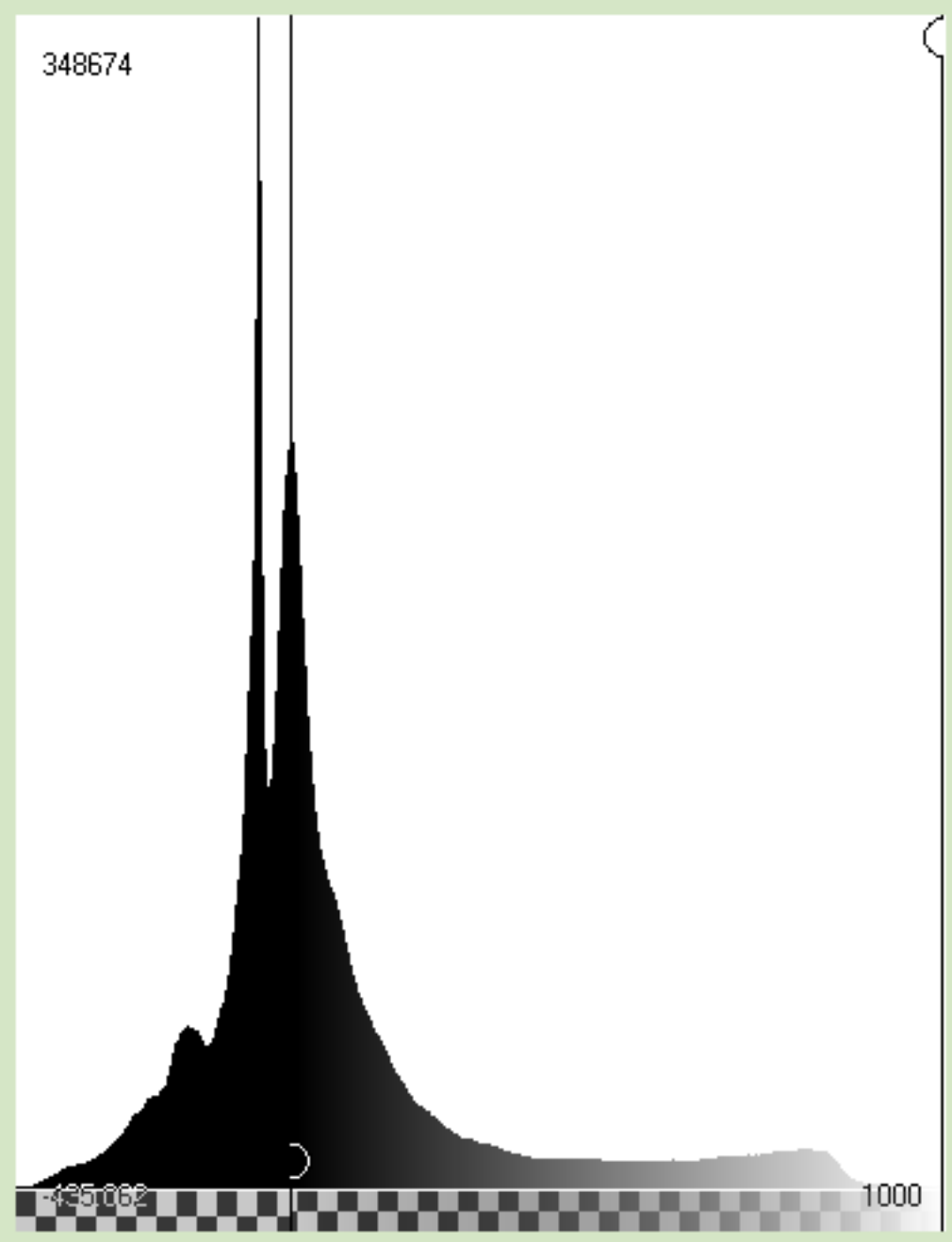
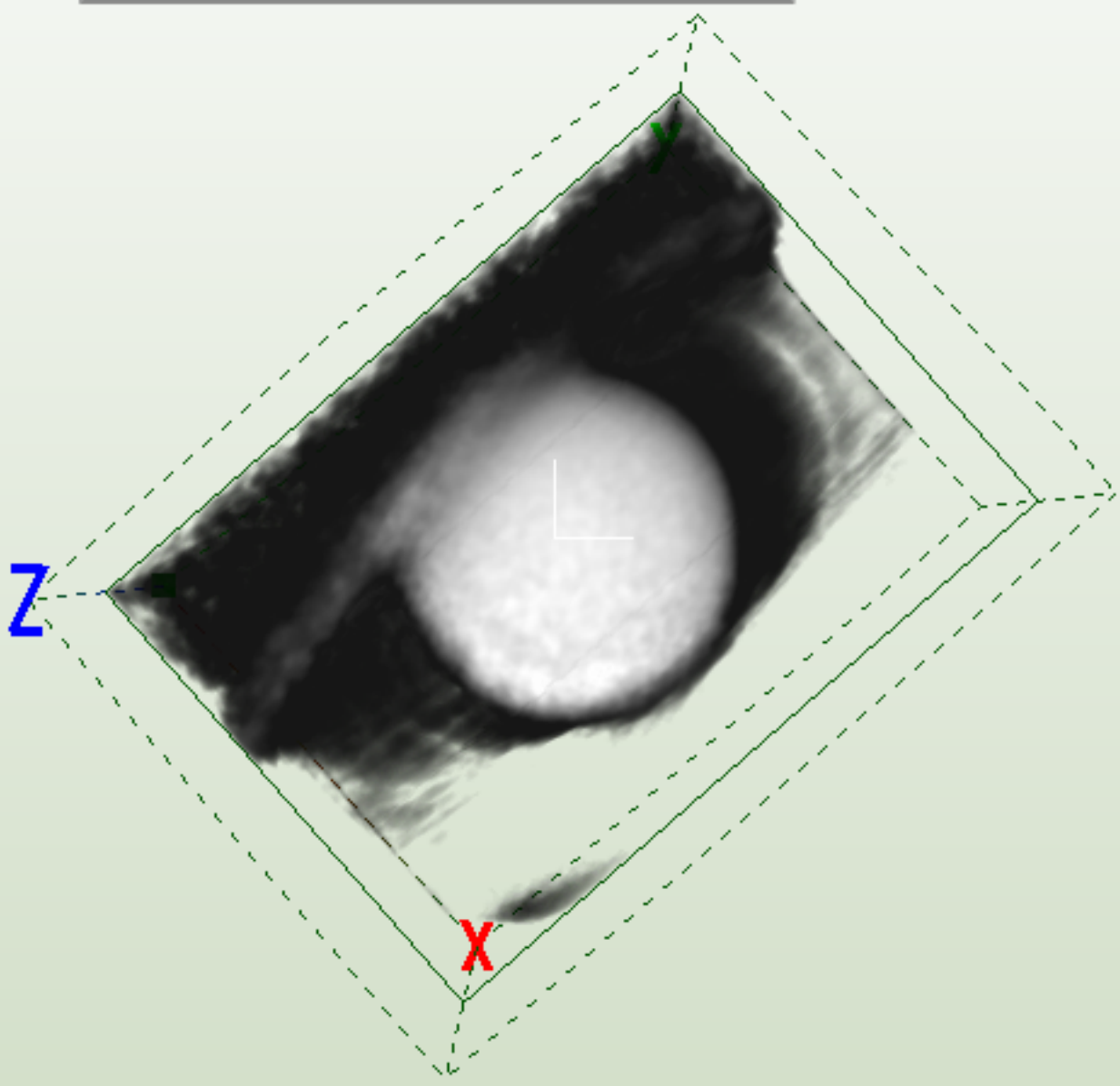
 Show Geometry

 Show Preview



Perspective

Pour modifier le rendu 3D du volume
(enlever le bruit), afficher
l'histogramme



Display range selection
min. -7.265411 max. 1000 Show display range

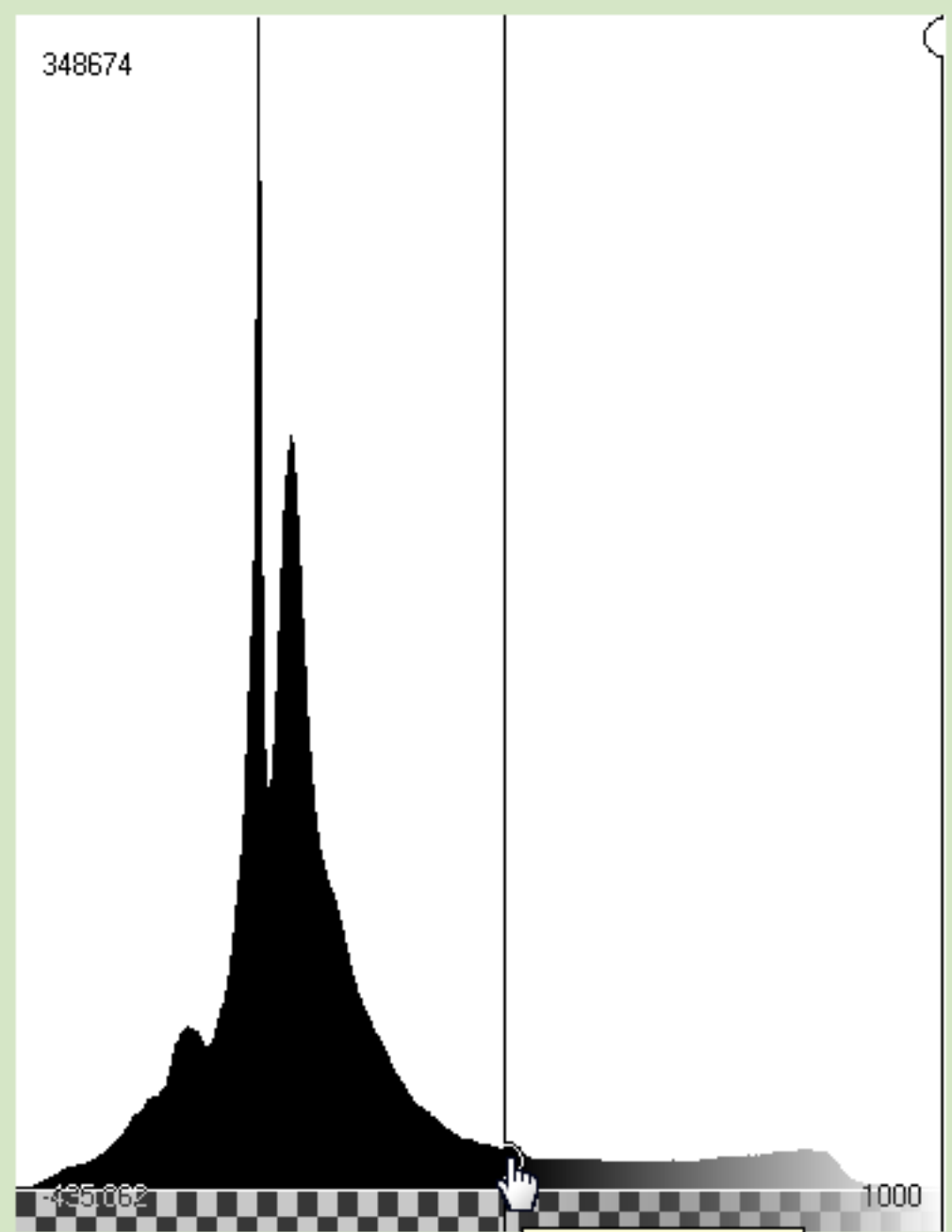
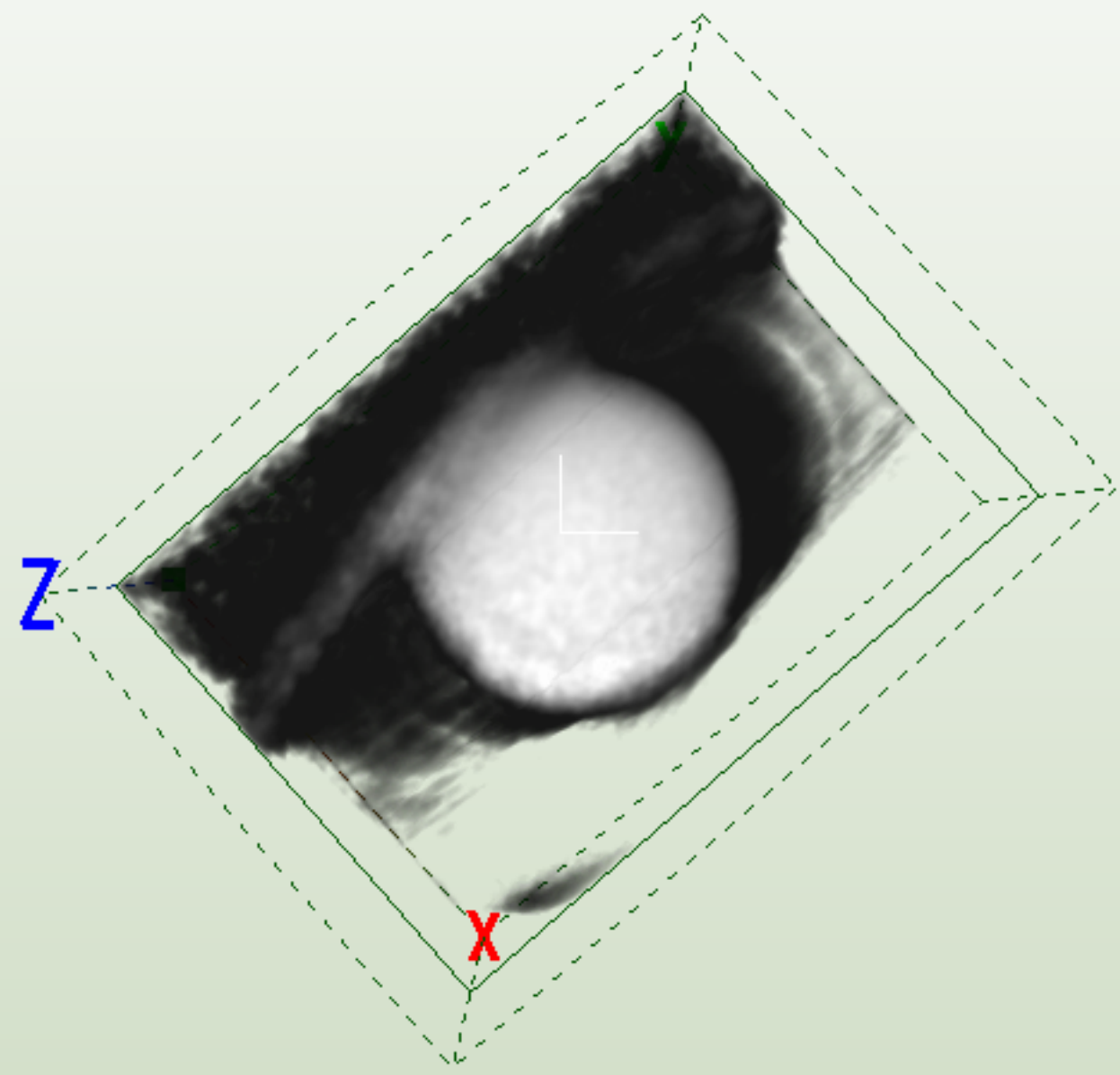
Color presets

Add grip



Perspective

Front

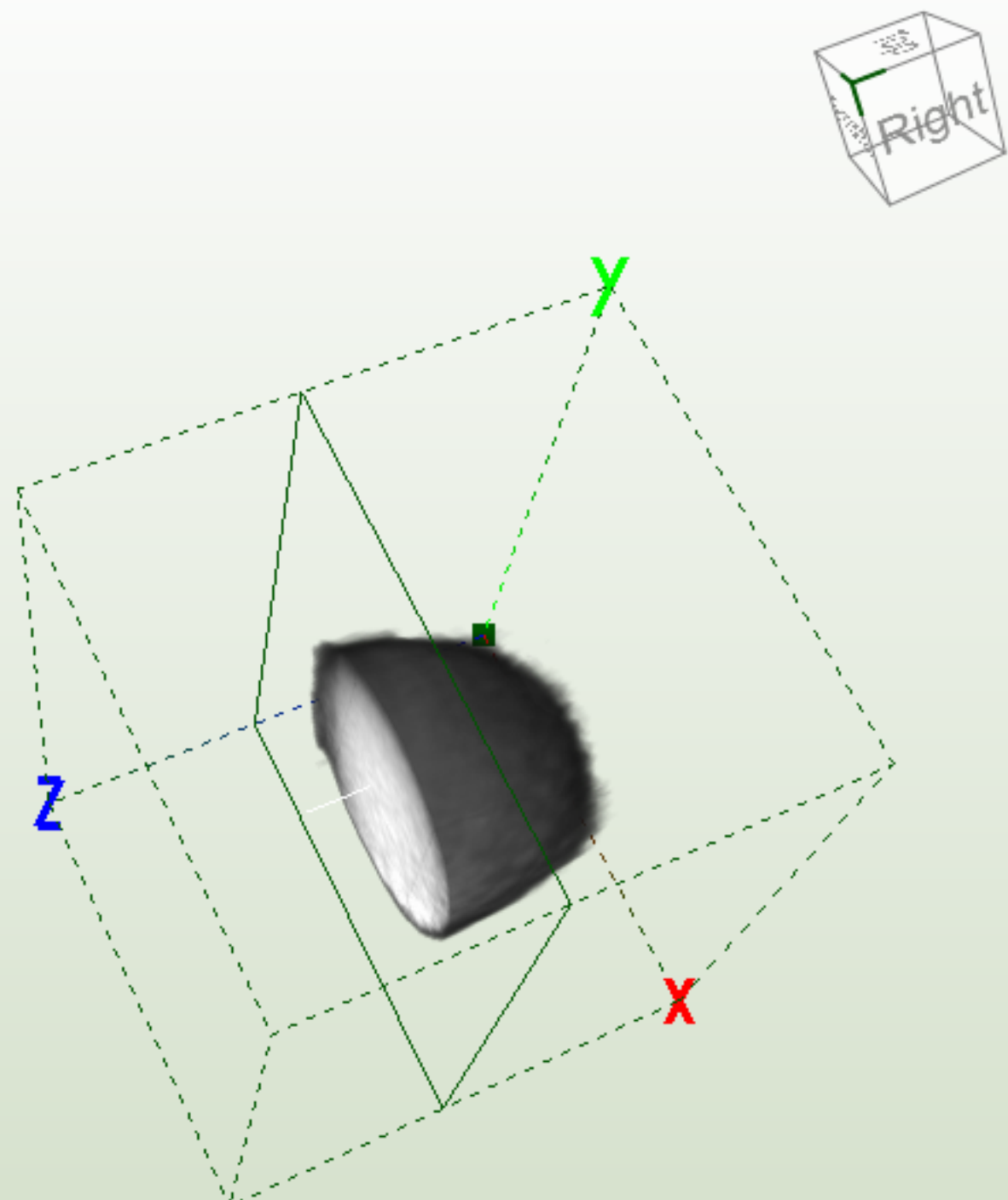


Display range selection
min. max.
rgb=(0,0,0), alpha=0

Pour enlever le bruit, déplacer le grip noir sur votre droite et cliquer sur Apply.

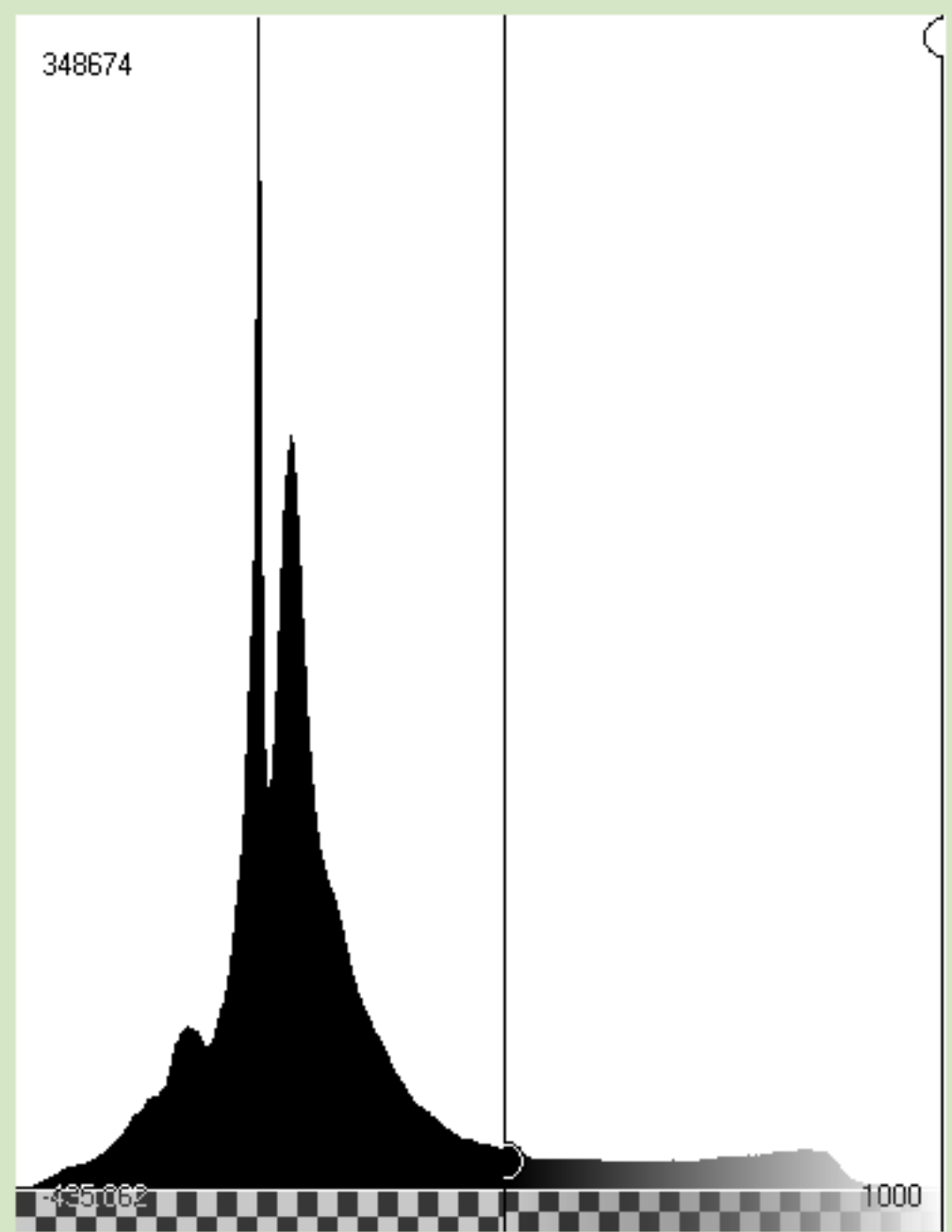


Perspective



Le volume est prêt : vous pouvez utiliser les autres plugins tels DigiCUT, DigiSRF....

348674



Display range selection
min. 323.304321 max. 1000 Show display range

Color presets

Add grip

-from DisplayVolume--