

Modélisation de « petits objets »

PROJET FORCALQUIER 2017

BERNARD NOLWENN

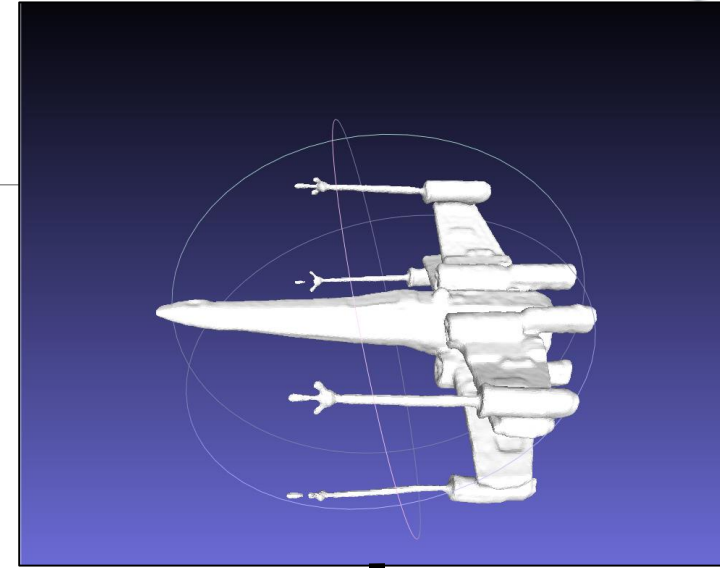
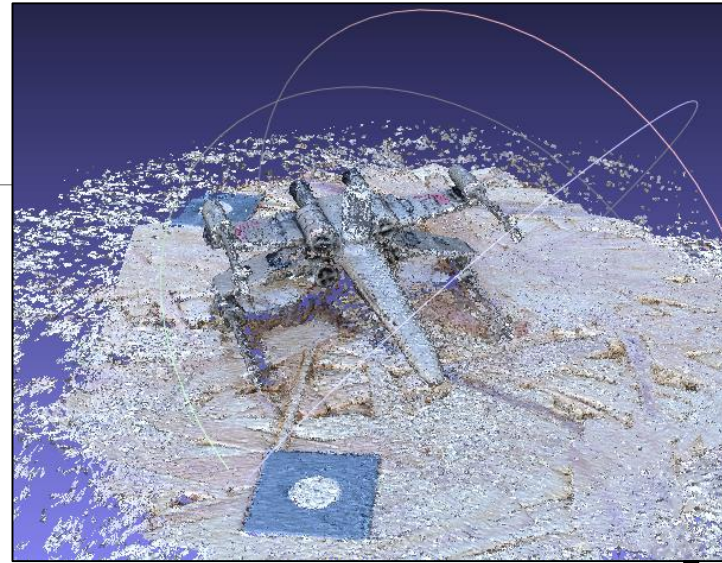
BERTRAND CHLOÉ

PARRA CAMILLE

PERRET ALEXIS







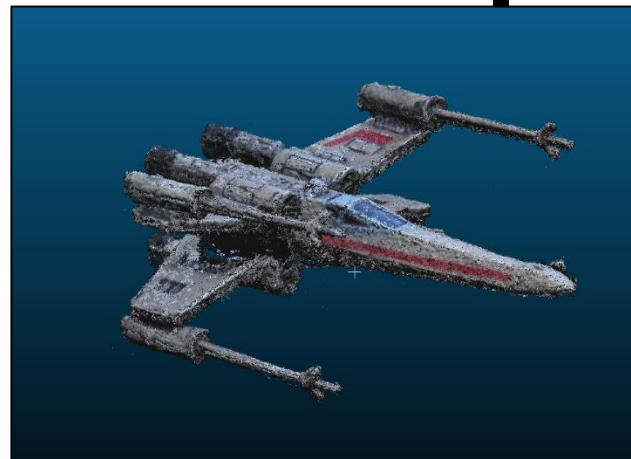
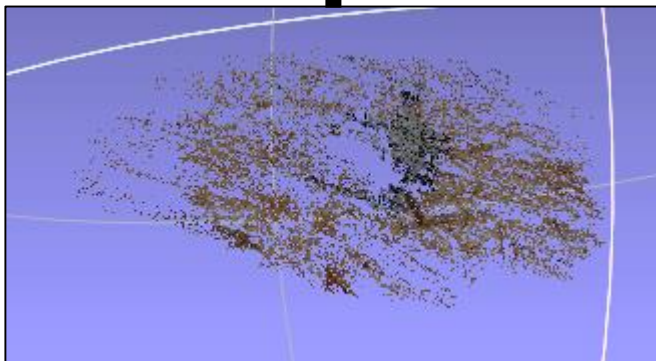
Photographies

Points de liaison

Nuage de points 3D **partiel** et **complet**

Meshage

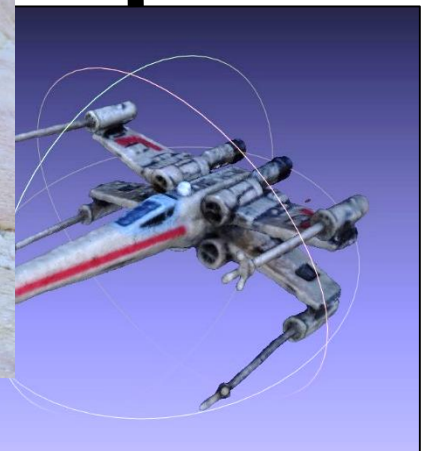
Texture

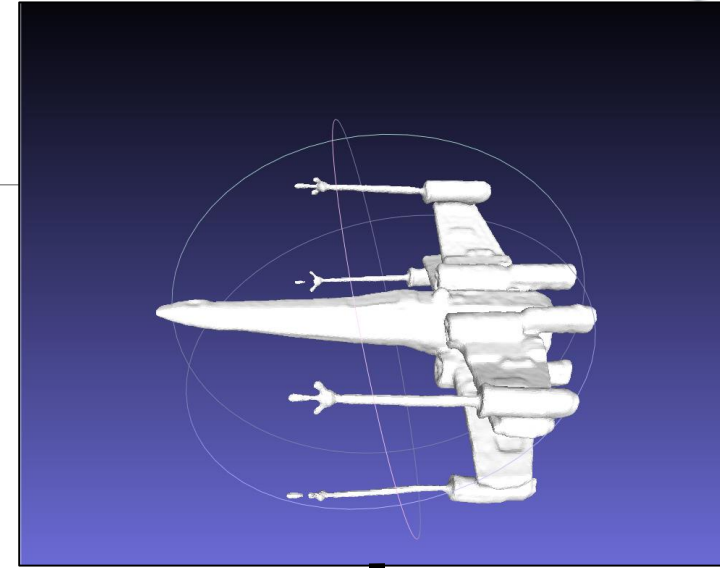
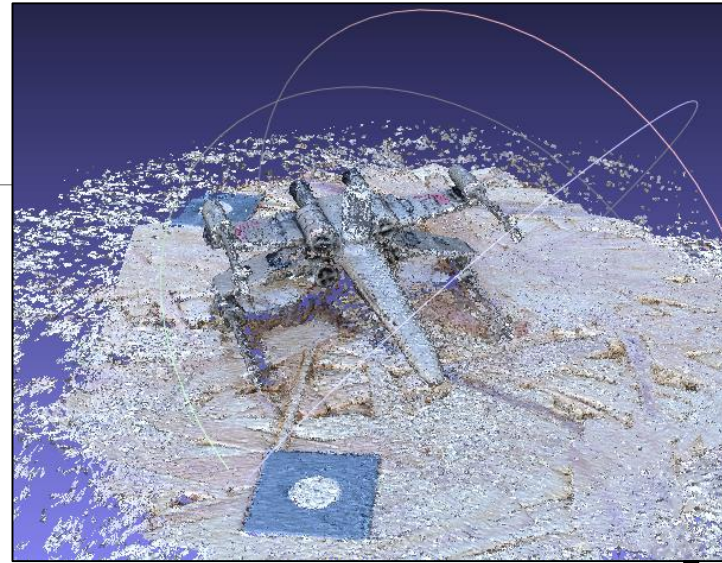




Photographies

Texture





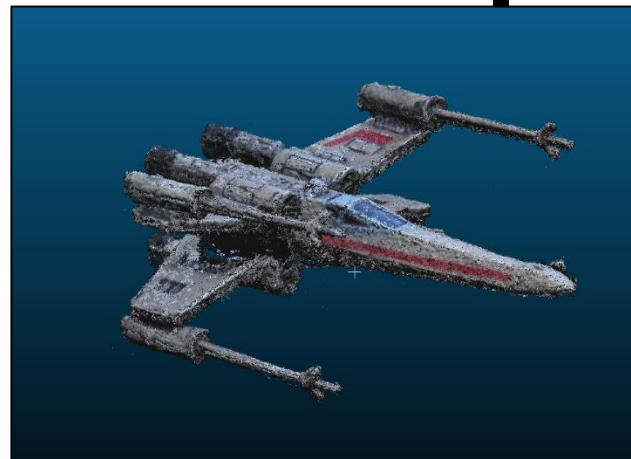
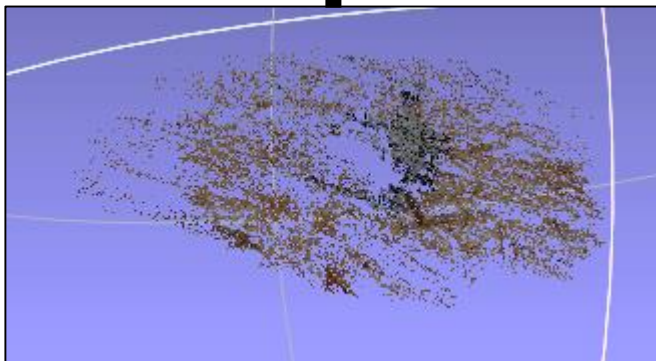
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Nuage de points 3D **partiel** et **complet**

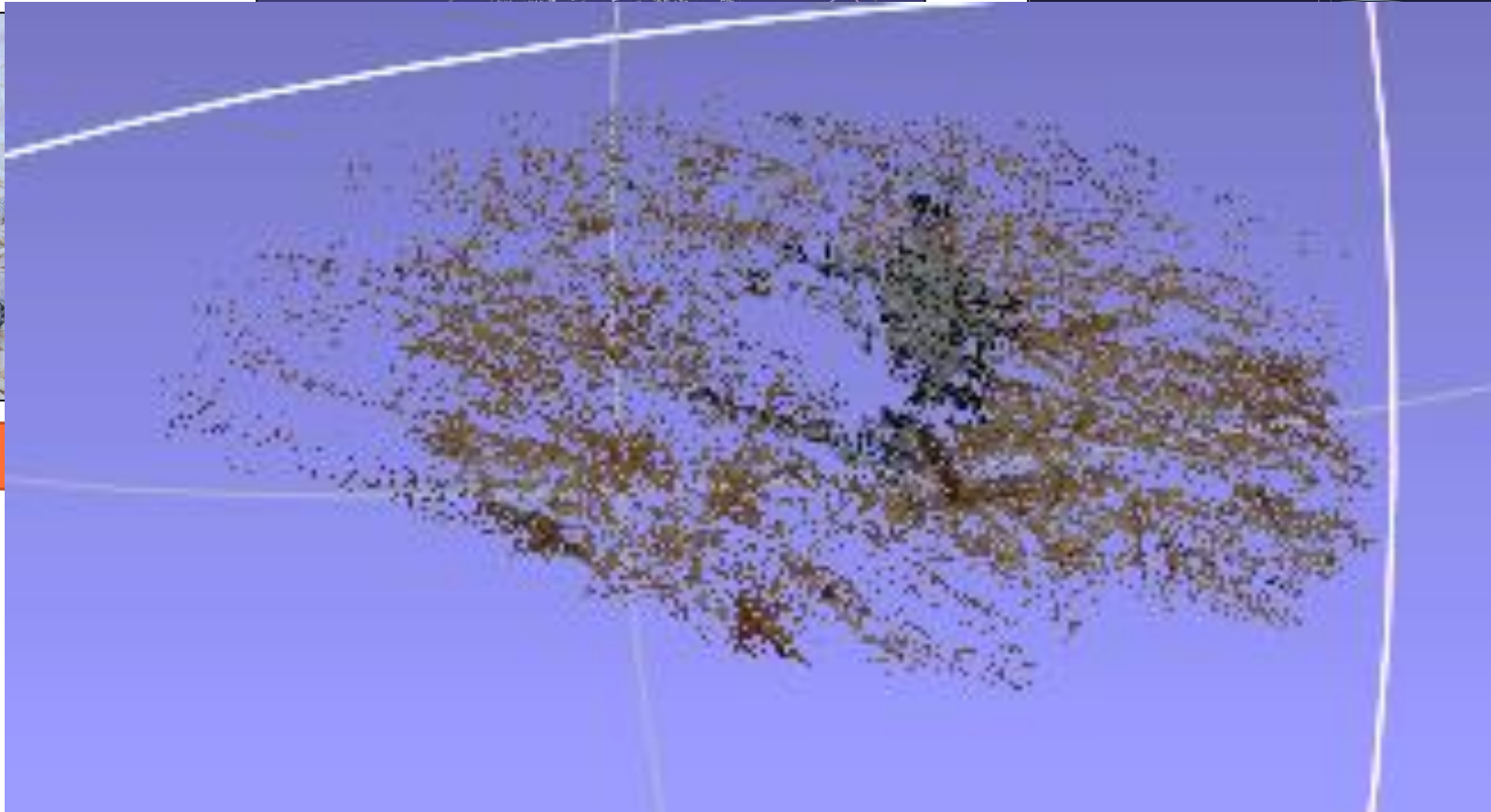
Meshage

Texture



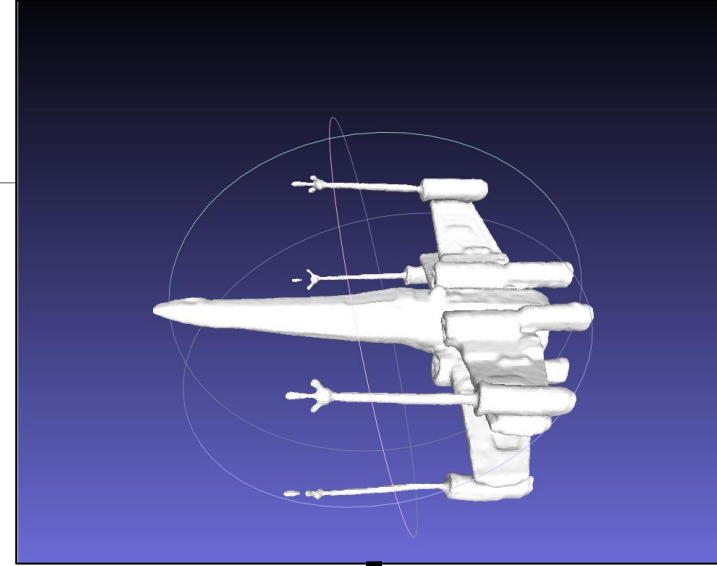
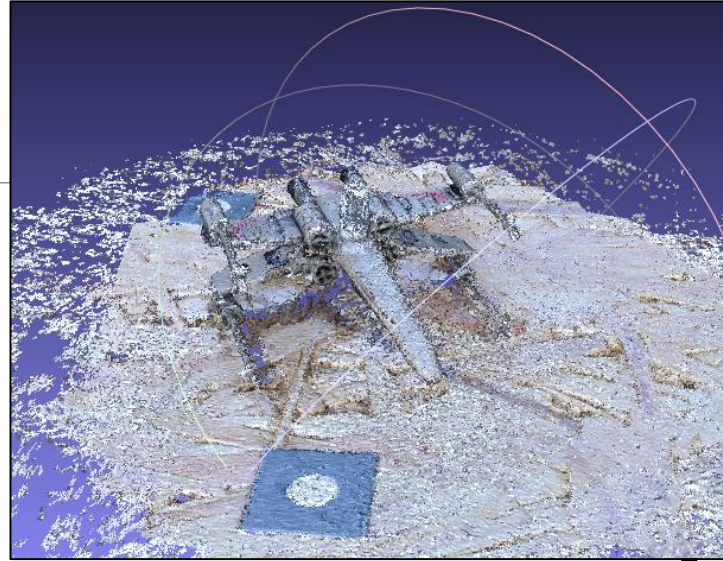


Photographies



Texture





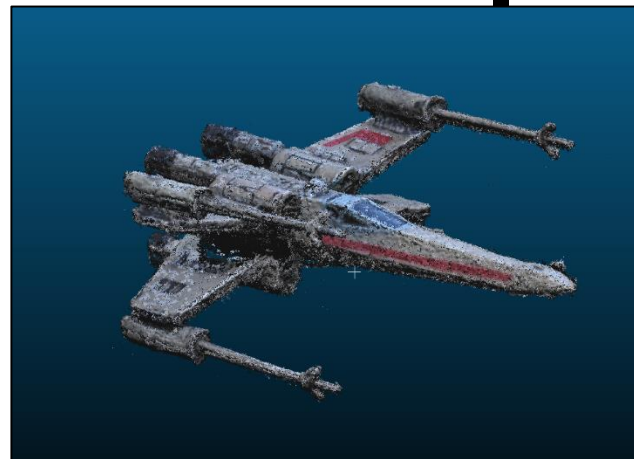
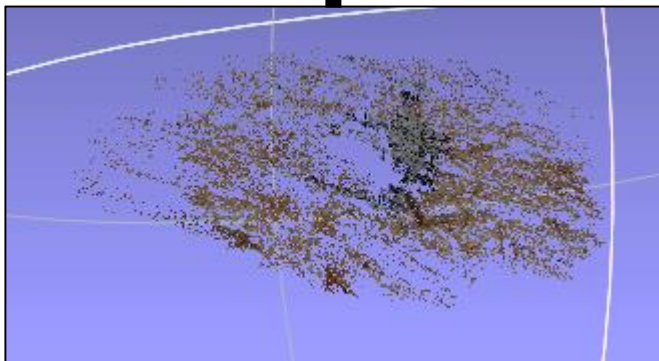
Photographies

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Nuage de points 3D **partiel** et **complet**

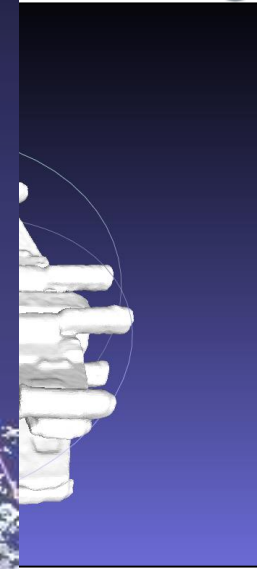
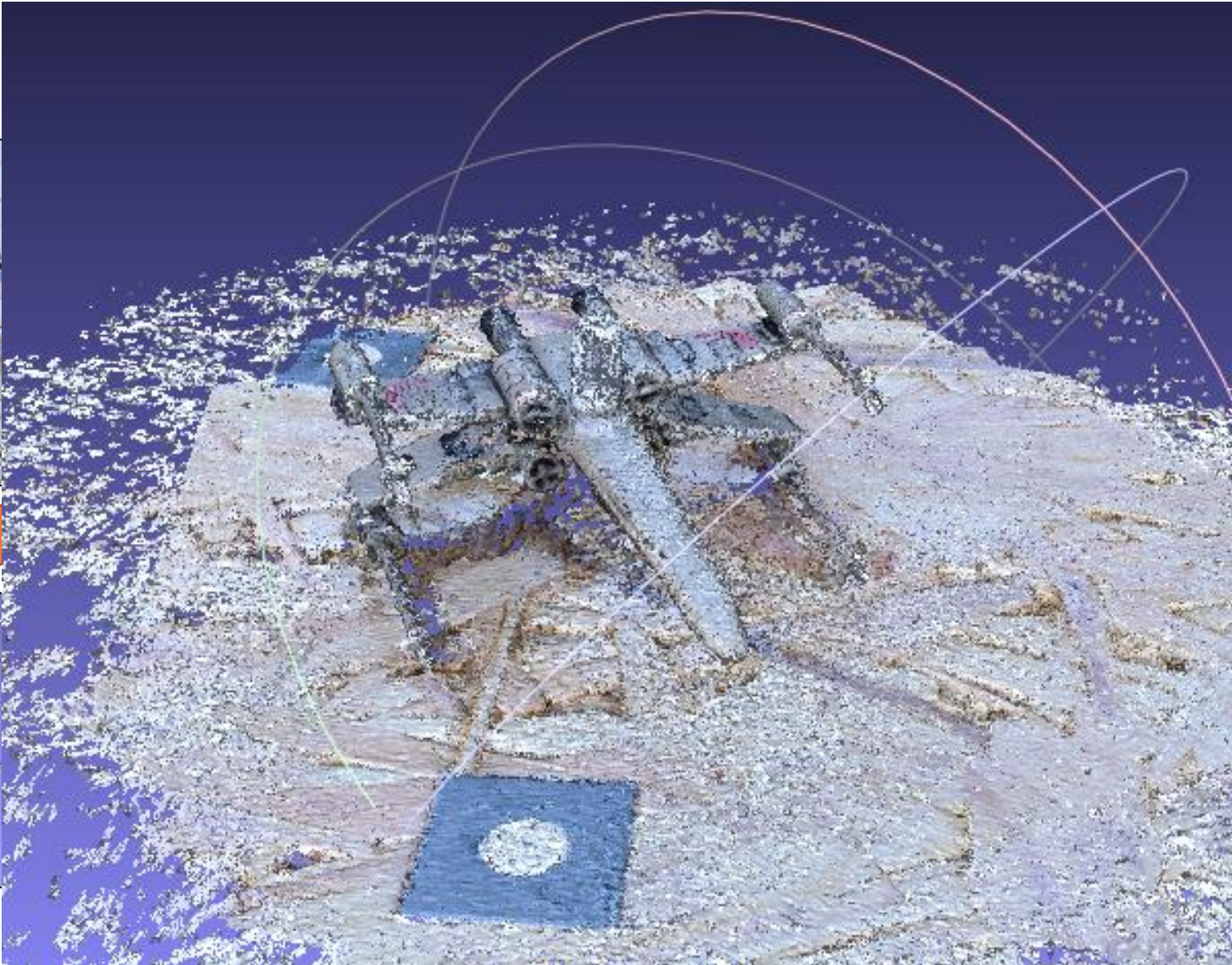
Meshage

Texture



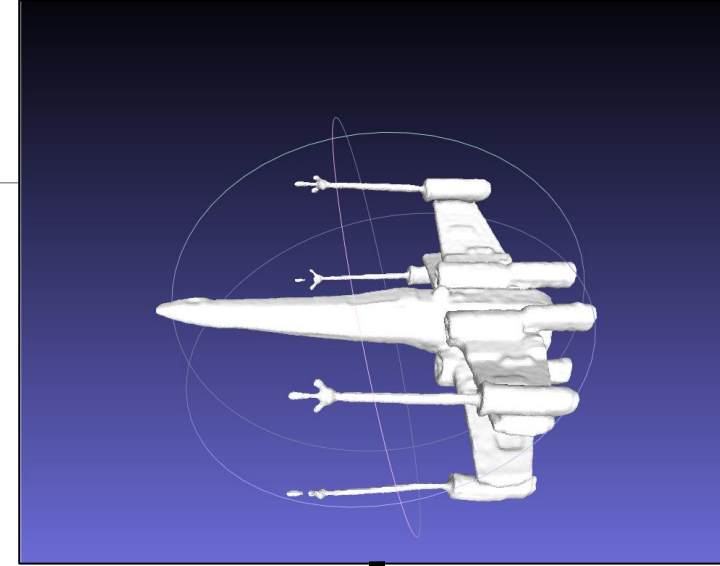
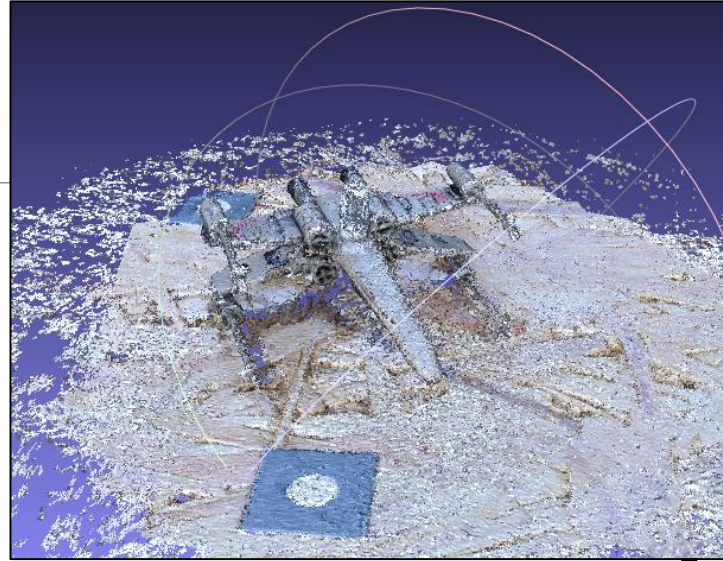


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Texture





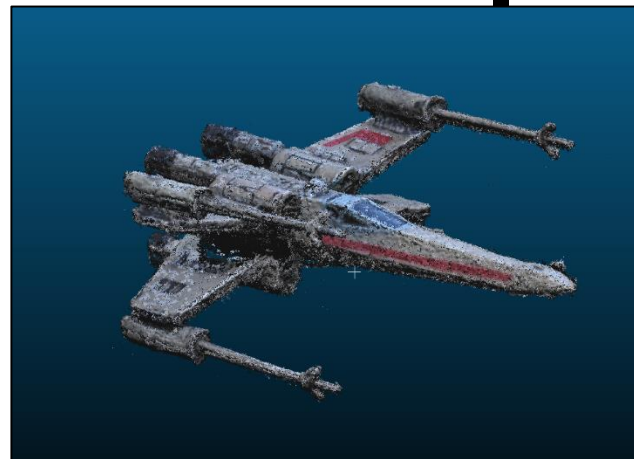
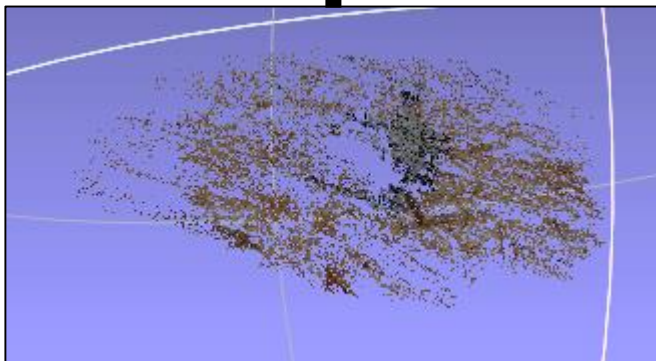
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Texture

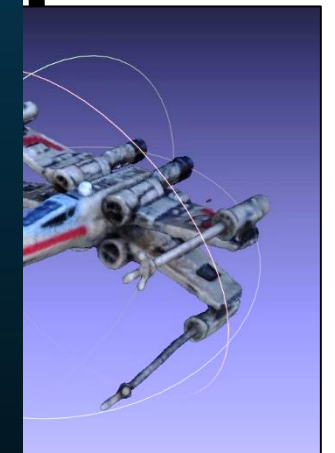


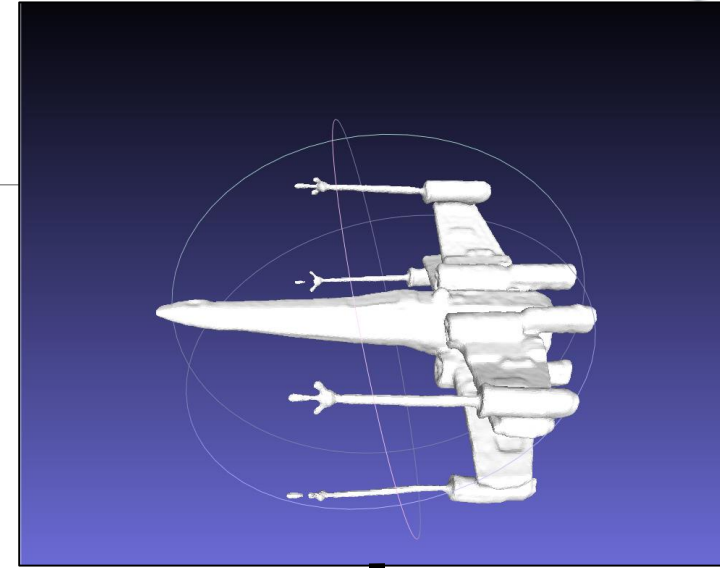
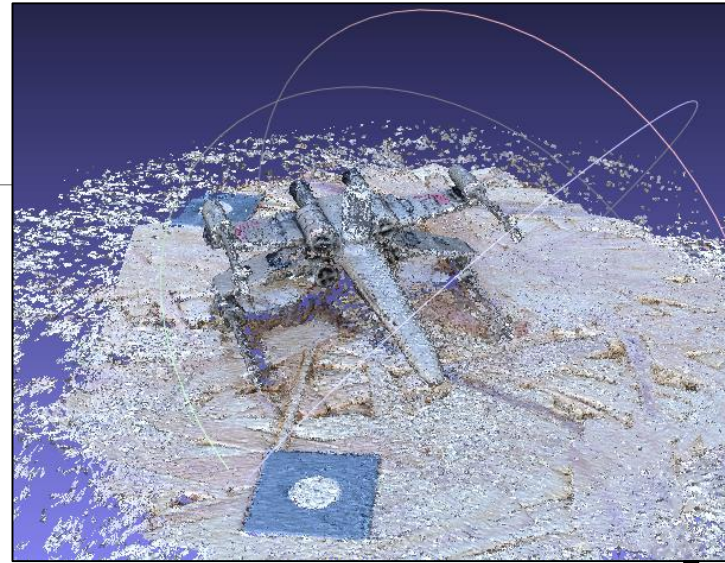


Photographies



Texture





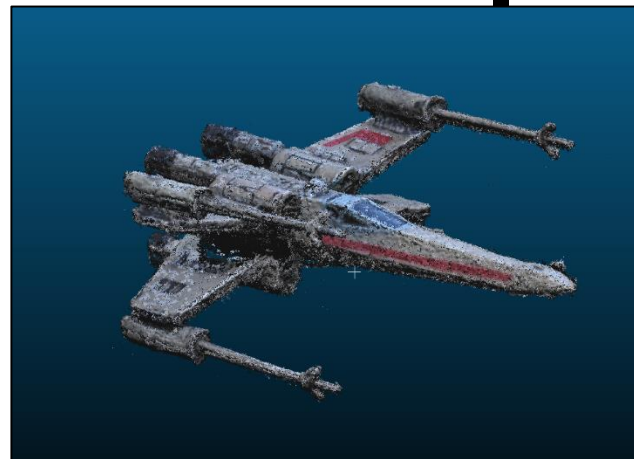
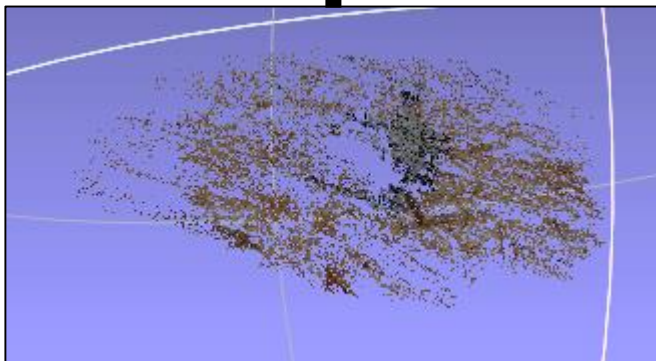
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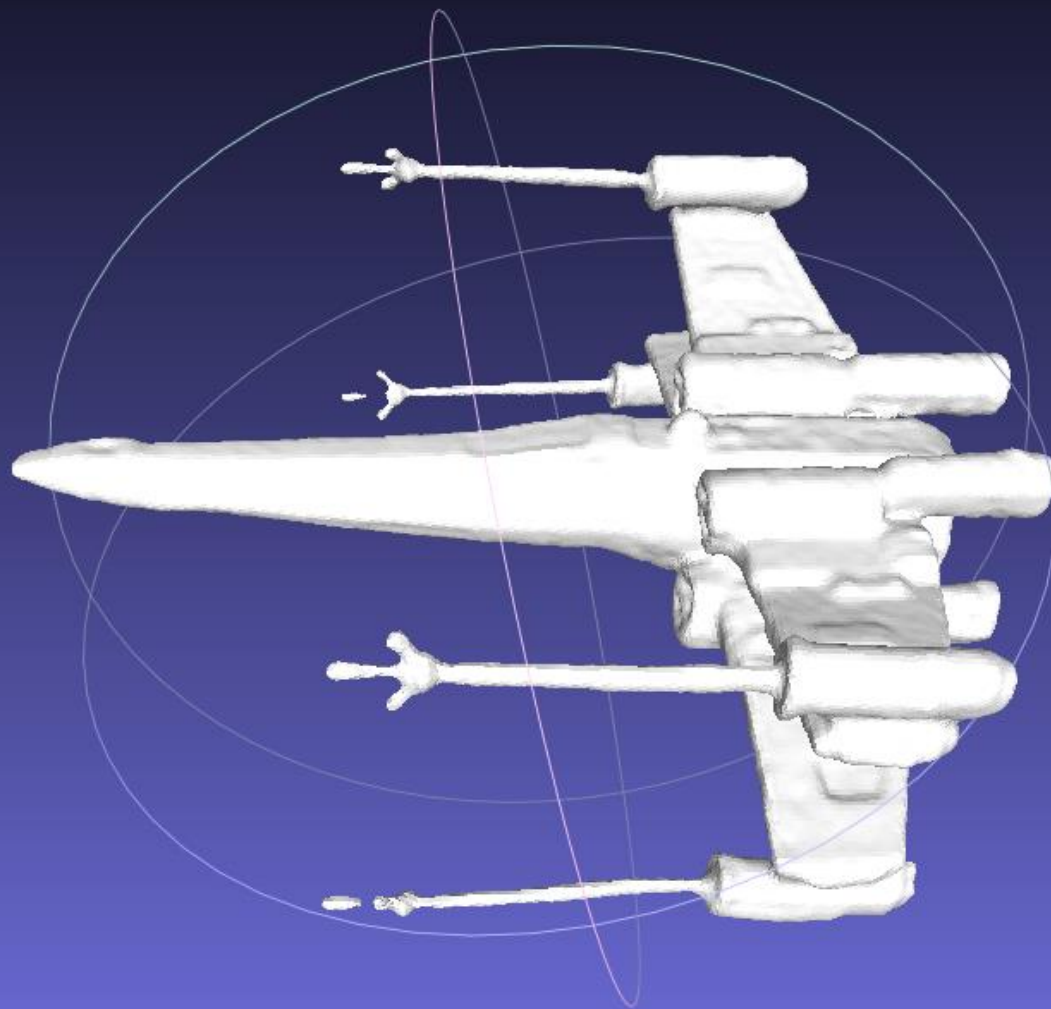
Meshage

Texture



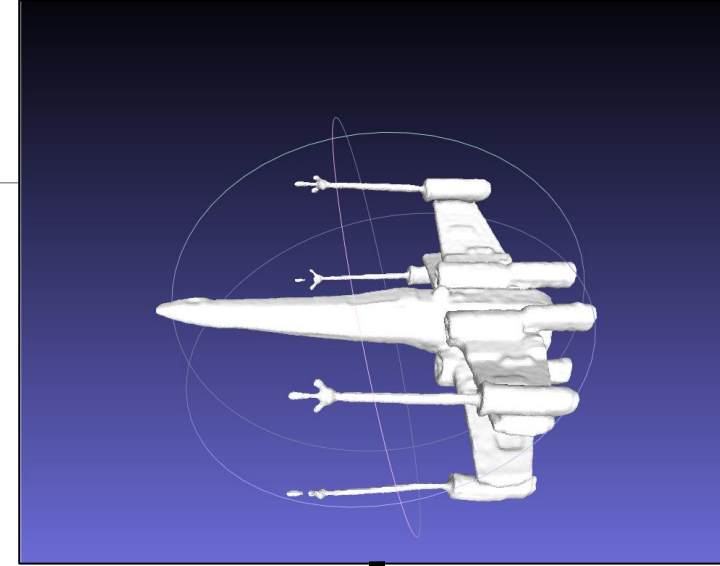
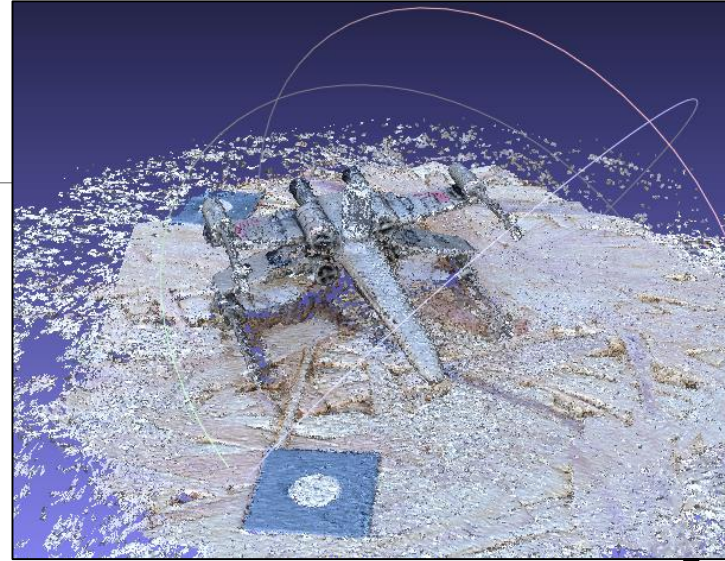


Photographies



Texture





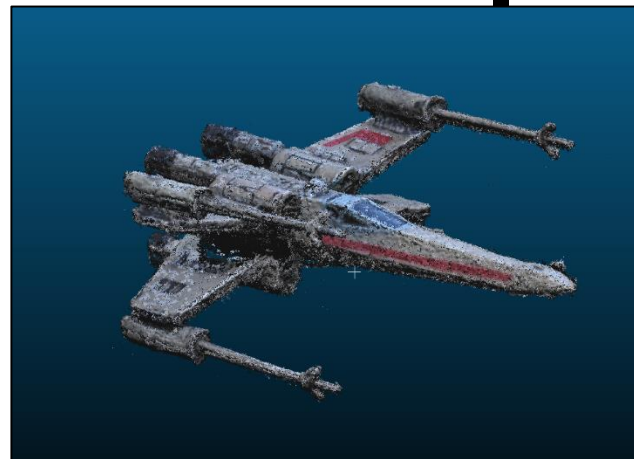
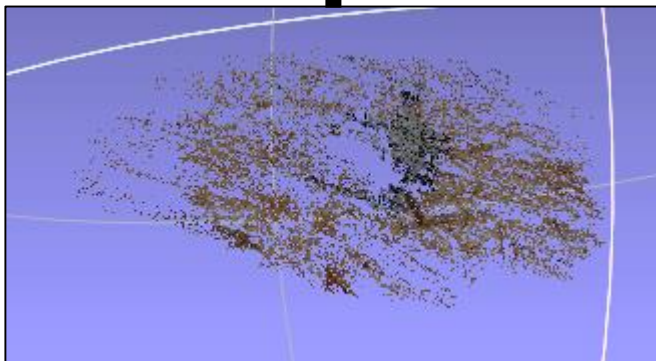
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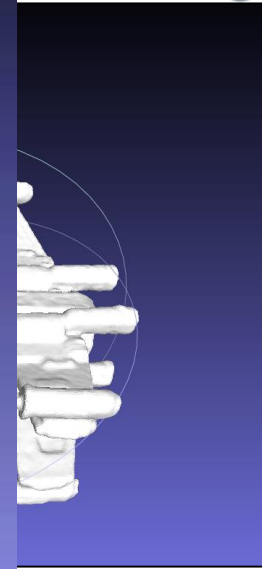
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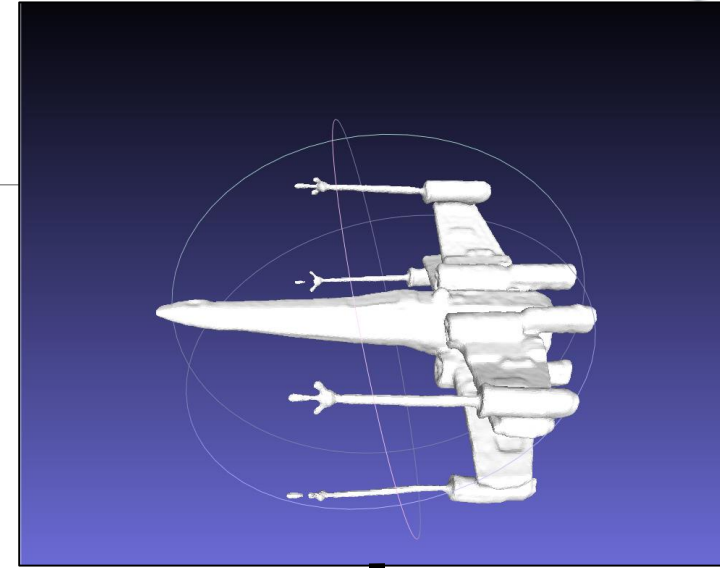
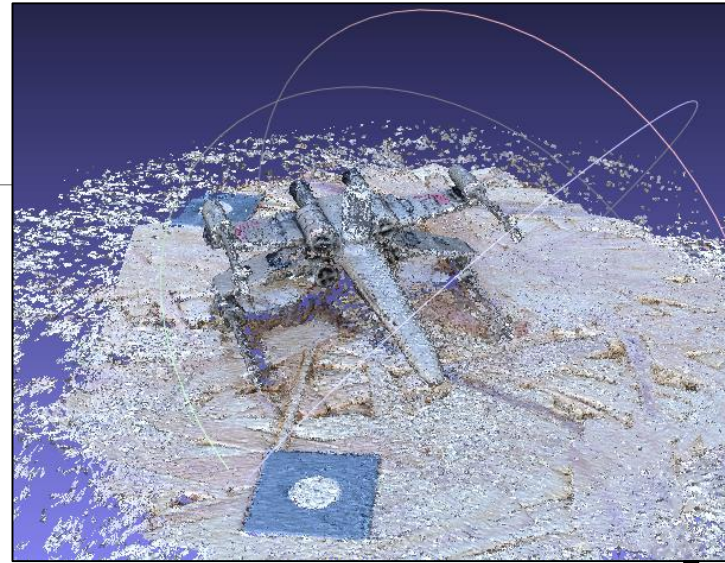


Photographies

Po



Texture



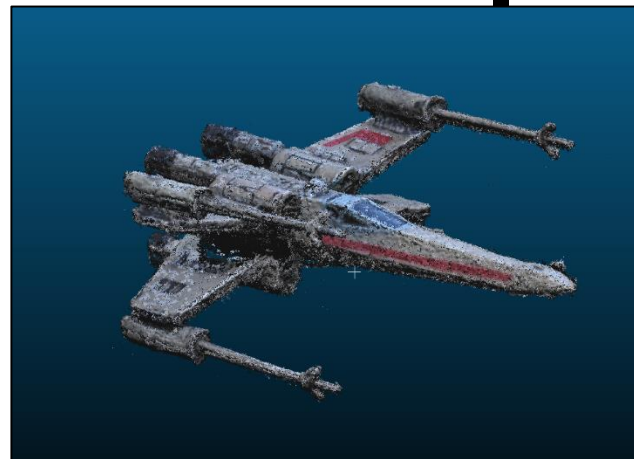
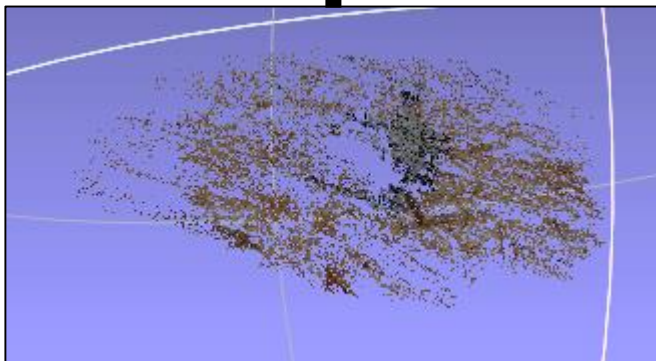
Photographies

Points de liaison

Nuage de points 3D **partiel** et **complet**

Meshage

Texture



Protocole



Appareil Photo Canon
EOS 77D

Table tournante

La profondeur de champ



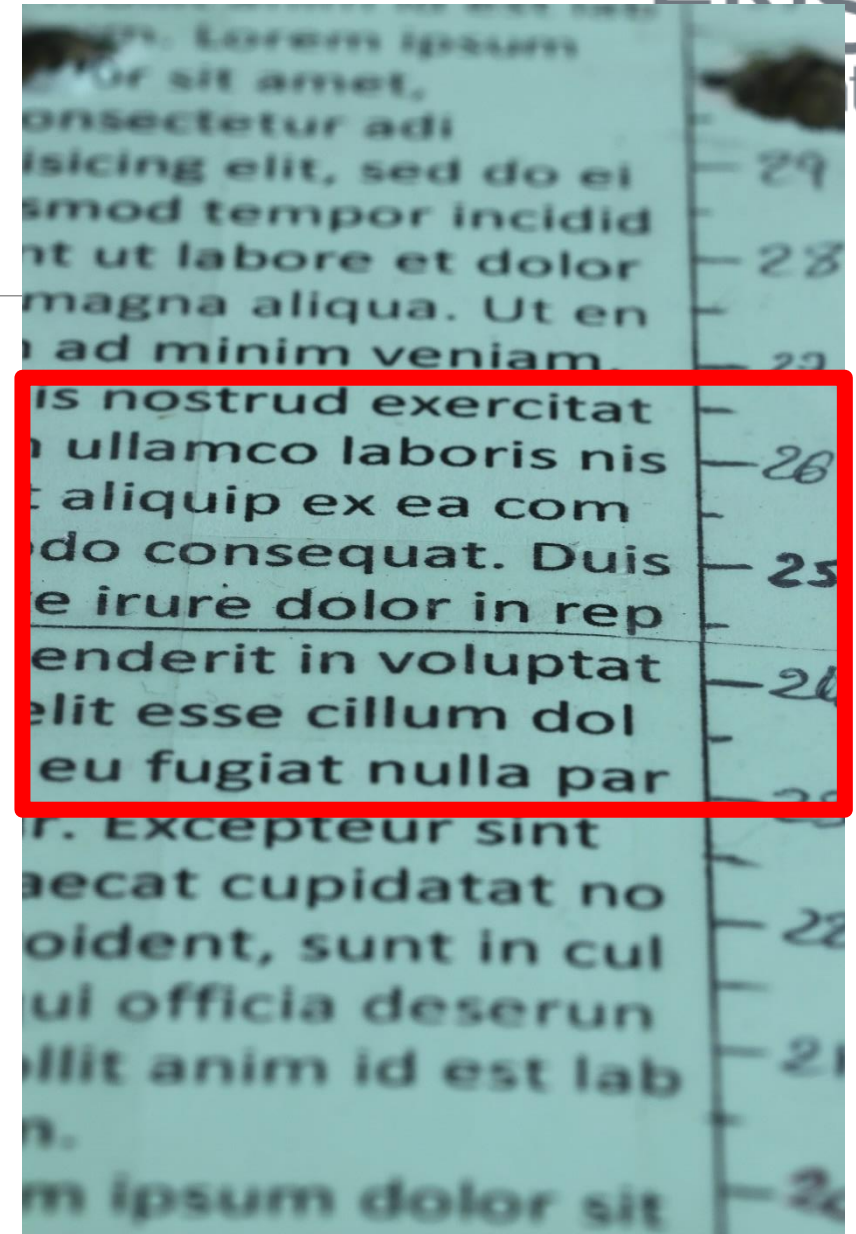
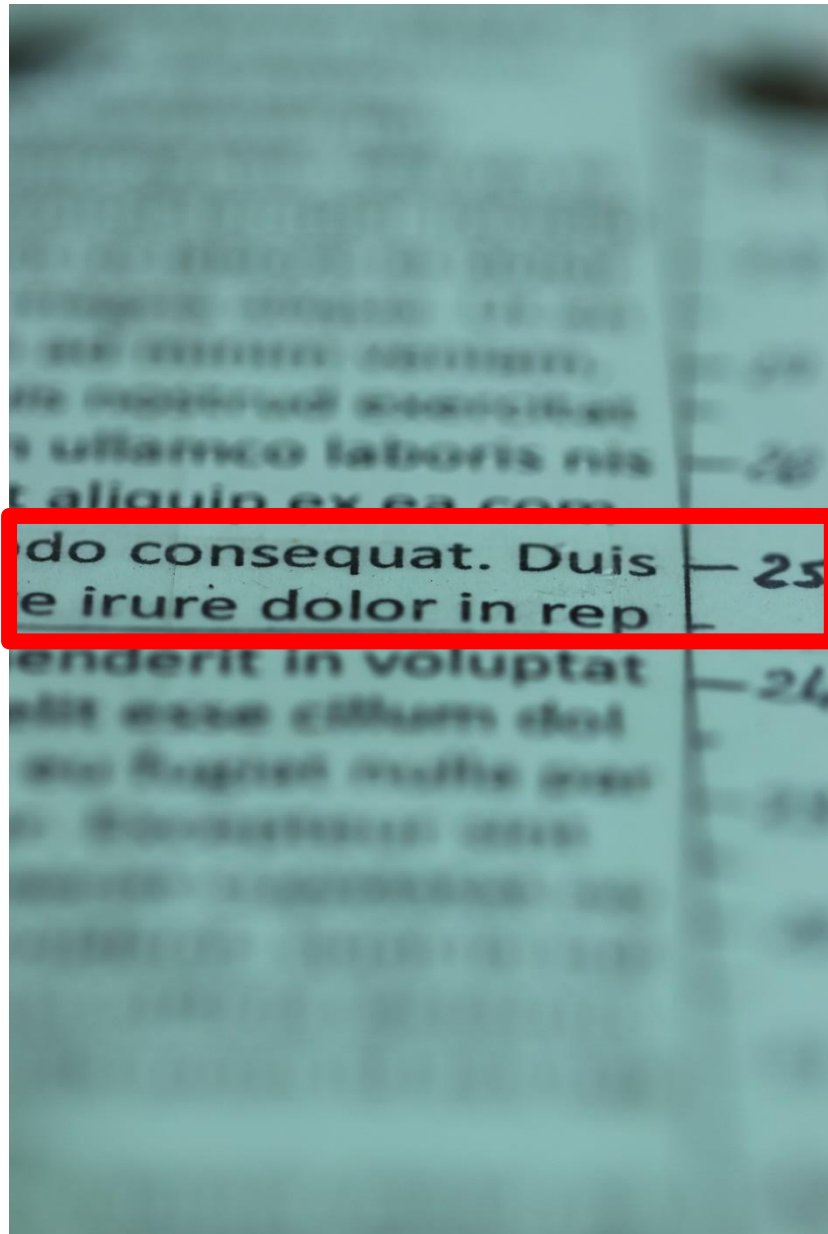
Mire graduée avec
du texte

**Focale
100mm**

**Nombre
D'ouverture**

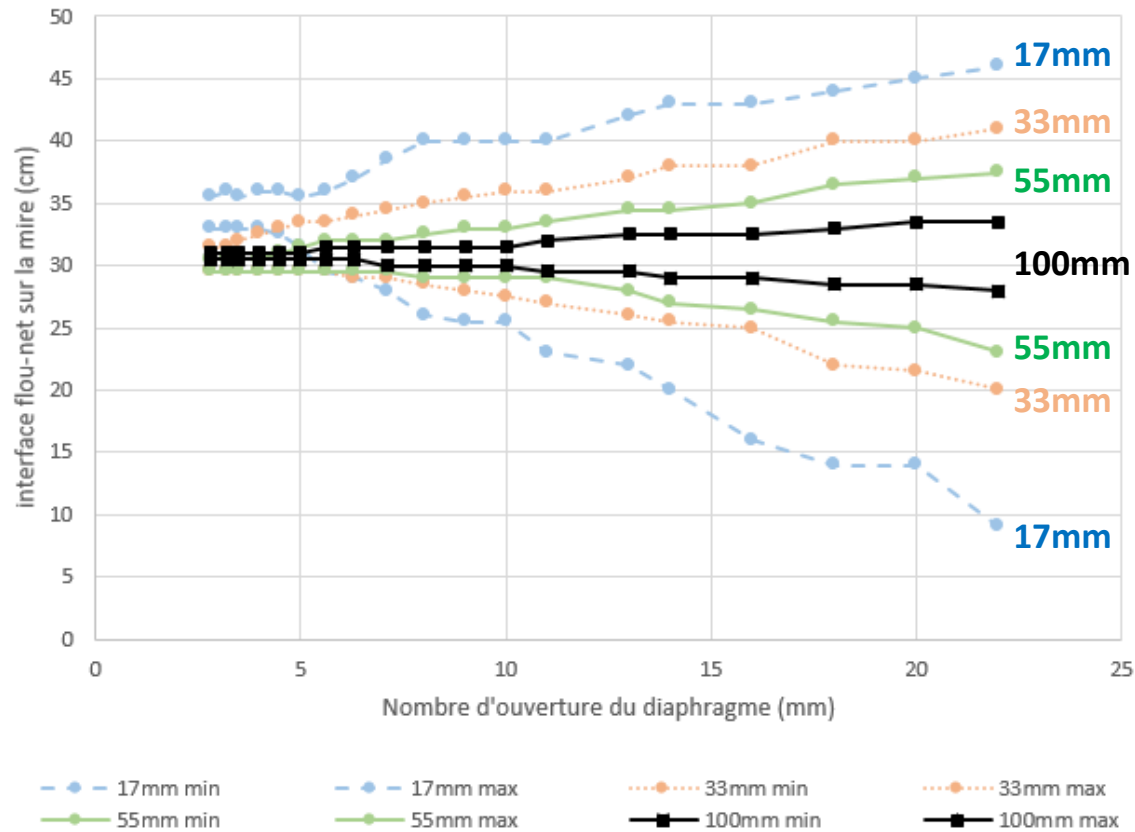
2,8

14

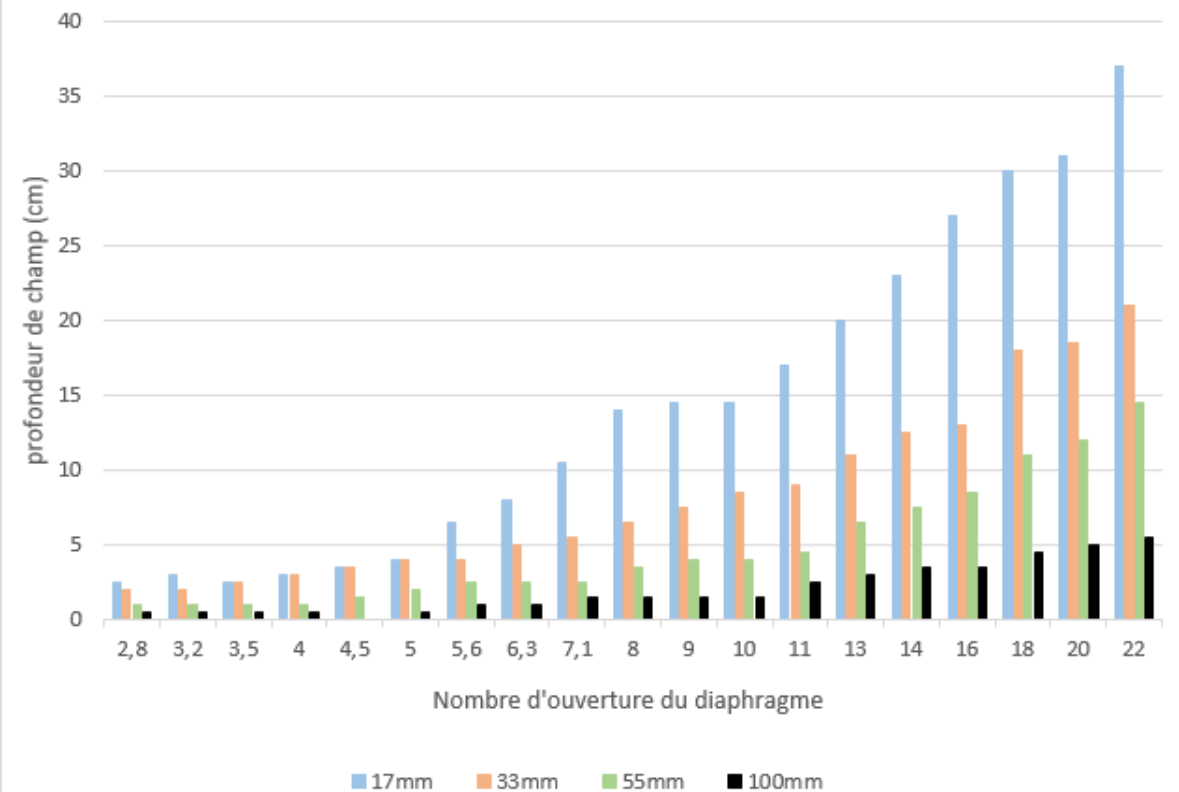


La profondeur de champ

Limite inférieure et supérieure de netteté en fonction de l'ouverture et de la focale



Profondeur de champs en fonction de l'ouverture et de la focale



Sommaire

- Paramètres d'acquisition
- Représentation (objet entier et meshage)

Fusion de profondeur de champ



Fusion de profondeur de champ



Fusion de profondeur de champ



Fusion de profondeur de champ



Fusion de profondeur de champ



Fusion de profondeur de champ



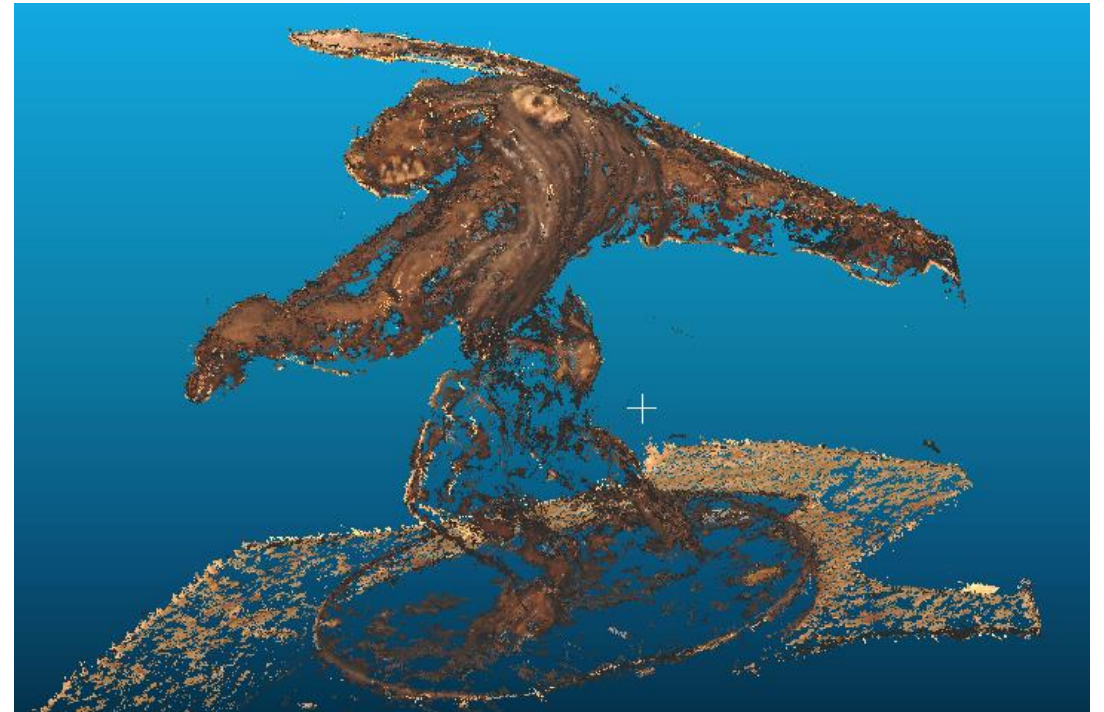
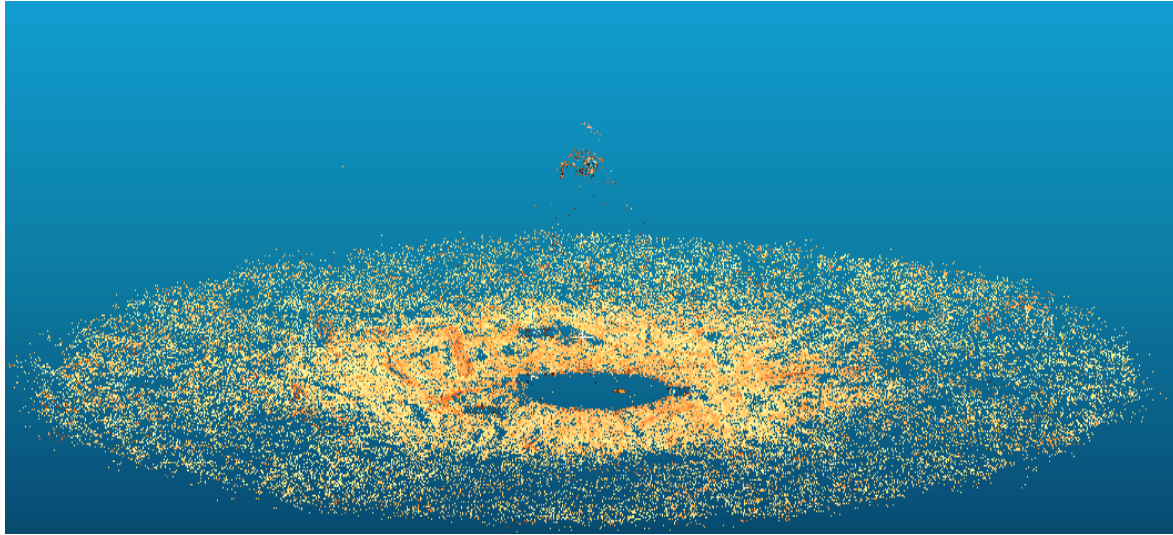
Fusion de profondeur de champ



Fusion de profondeur de champ



Fusion de profondeur de champ



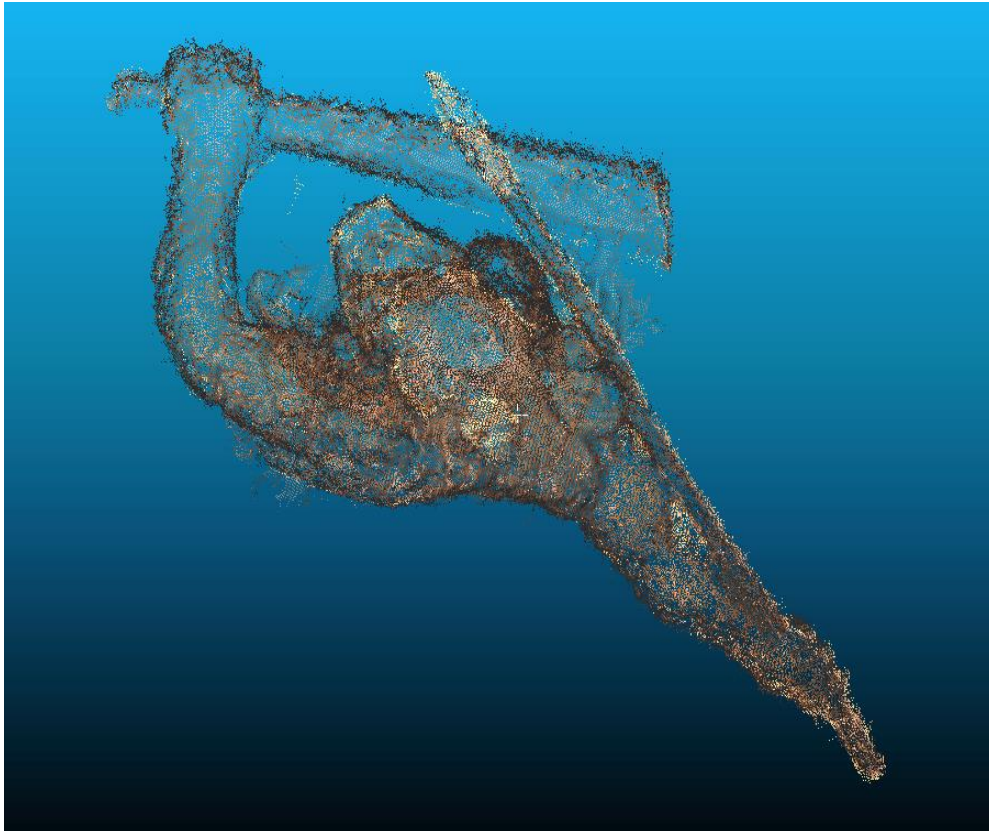
La luminosité



La luminosité



La luminosité



Sans panneaux



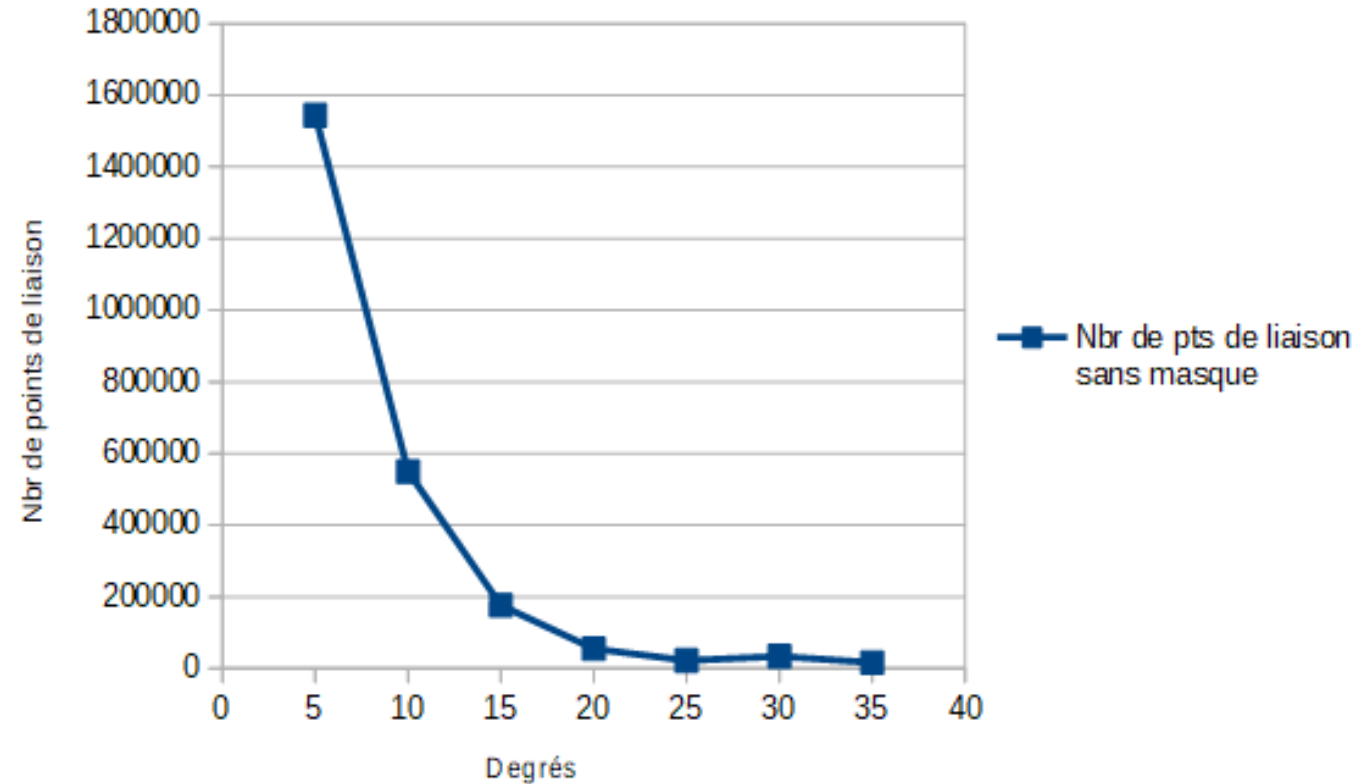
Avec panneaux

Angle entre deux photographies



Angle entre deux photographies

degrés	Réussite ?
5	✓
10	✓
15	✓
20	✓
25	~
30	~
35	✗



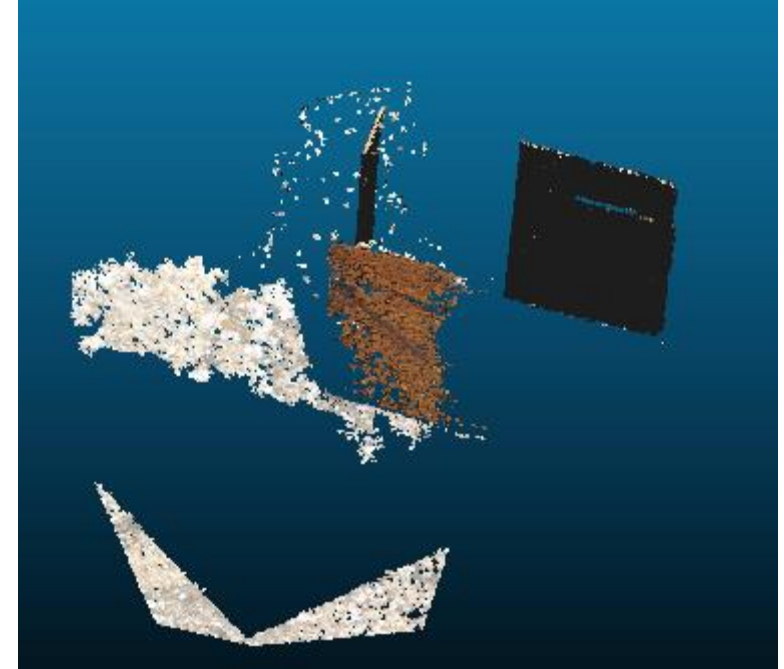
Angle entre deux photographies



Modélisation avec 10°



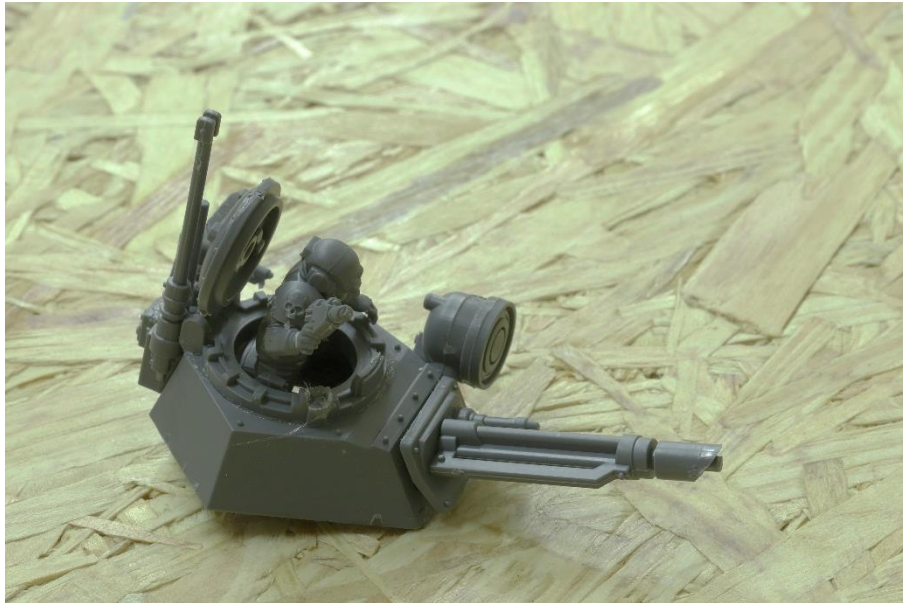
Modélisation avec 20°



Modélisation avec 35°

Angle entre deux photographies

Degrés	Réussite ?
5	✓
10	✓
15	✗



La focale

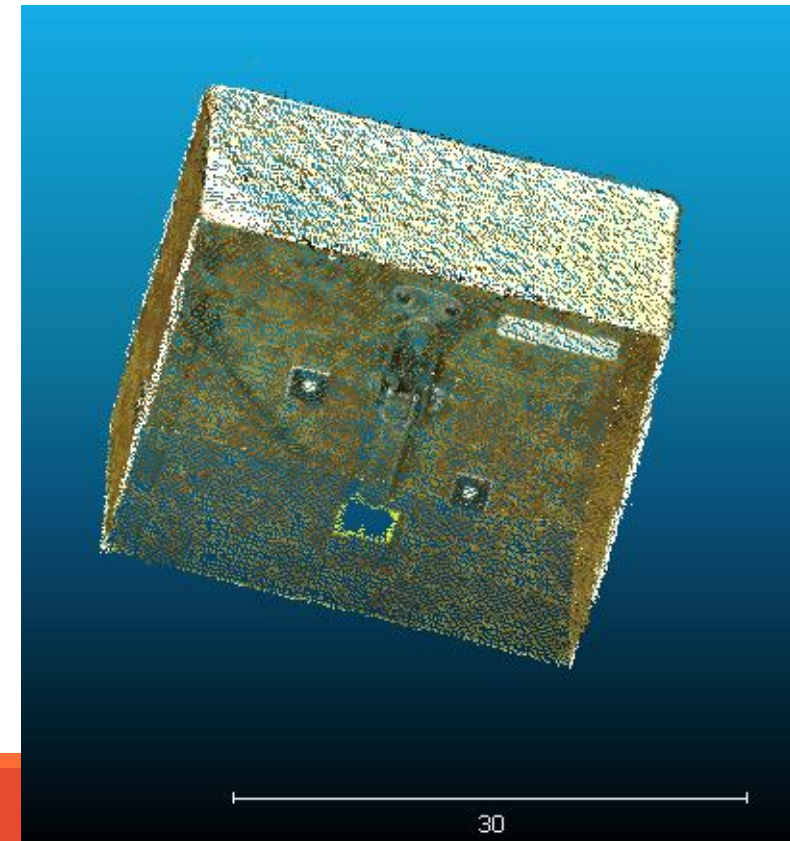
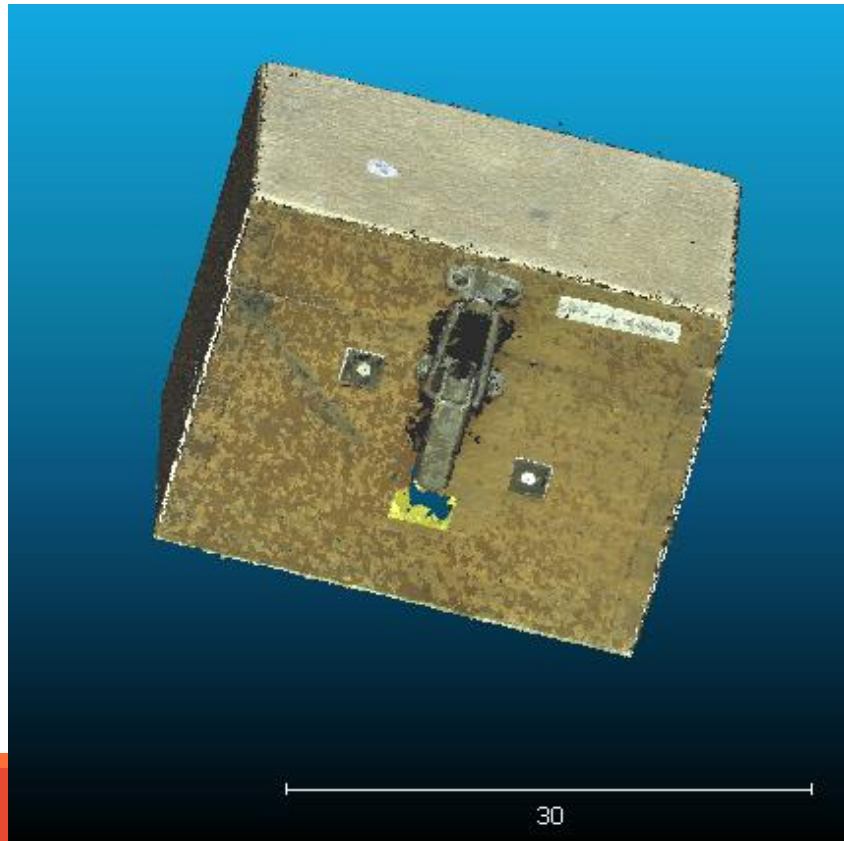


Focale en mm	Degrés	Taux de réussite
100	5	1
	10	0,25
50	5	0,5
	10	0



Comparaison Photos et Vidéo

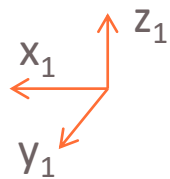
P
H
O
T
O



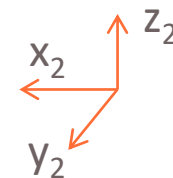
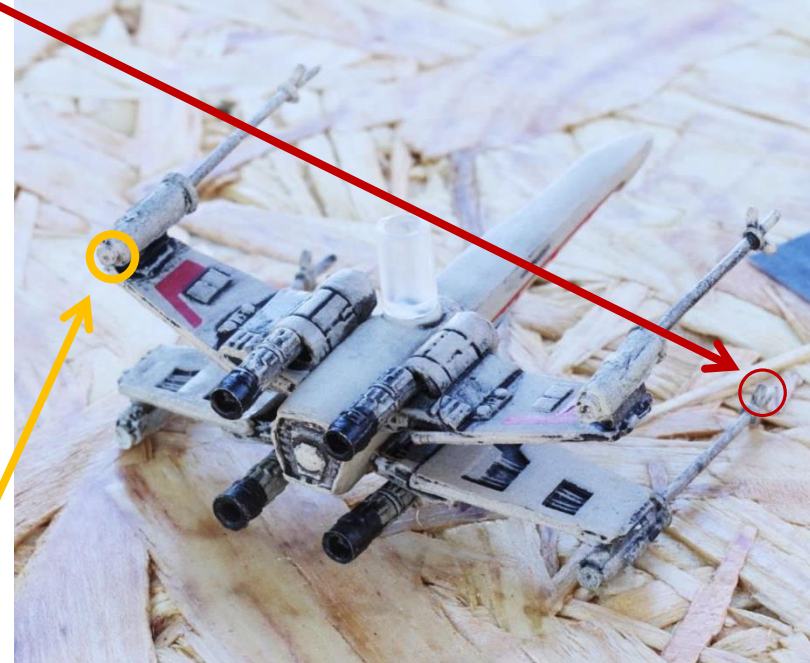
V
I
D
E
O

Le retournement

Dessus



Dessous

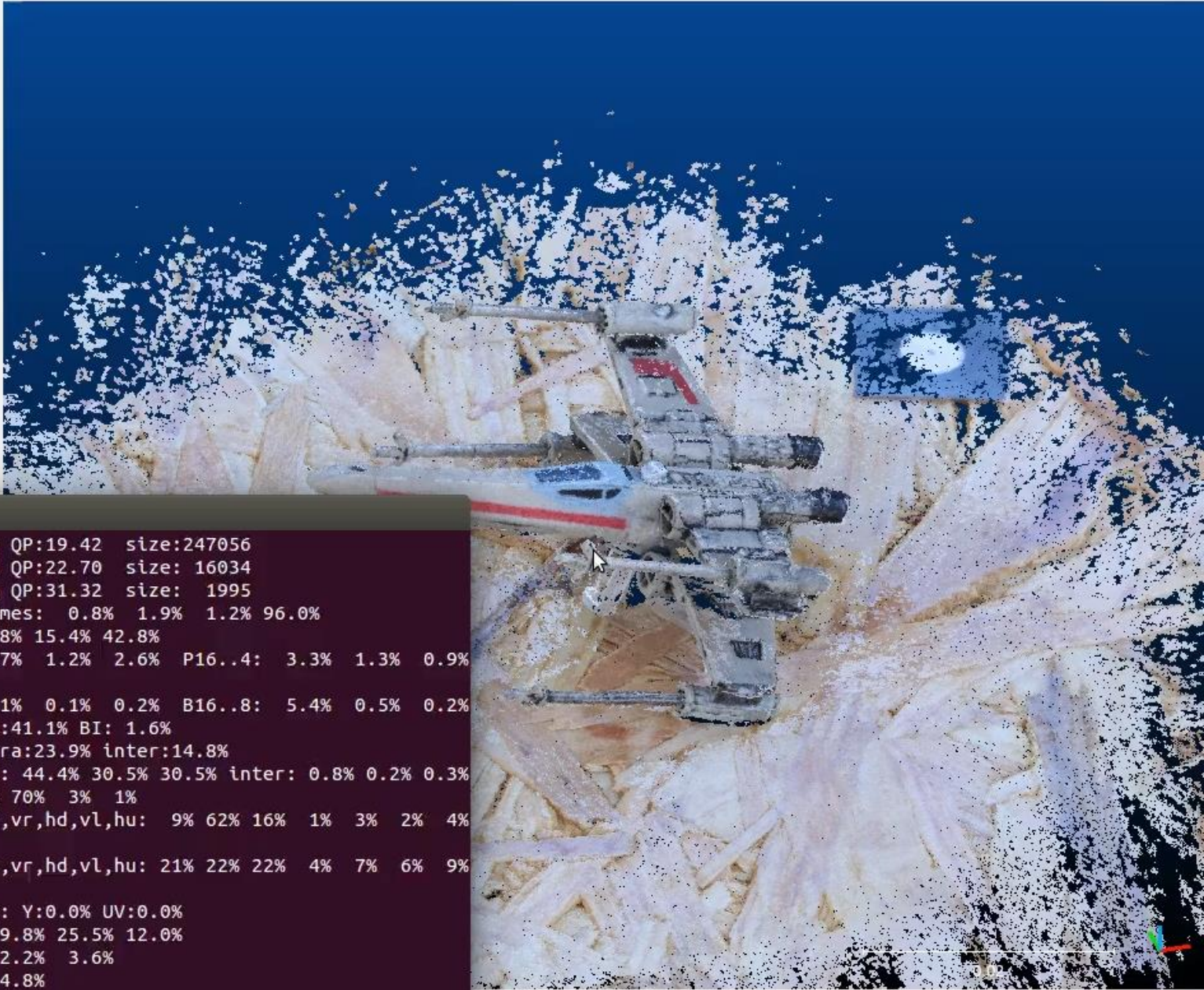


DB Tree

- Exemple_retourne...
 - X_wing_bas.ply (...)
 - X_wing_bas - ...
 - X_wing_bas - ...
 - X_wing_echelle...
 - X_wing_echel...
 - X_wing_echel...

☐ Camera Link

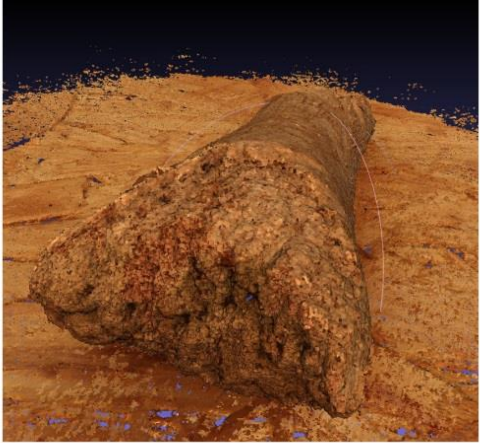
Properties



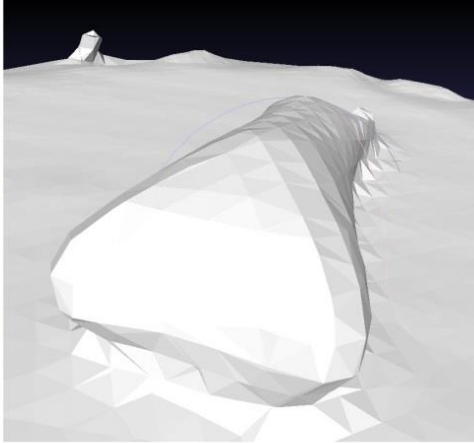
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4 @ 0x3e991c0] frame I:3      Avg QP:19.42  size:247056
4 @ 0x3e991c0] frame P:188   Avg QP:22.70  size: 16034
4 @ 0x3e991c0] frame B:538   Avg QP:31.32  size:  1995
4 @ 0x3e991c0] consecutive B-frames:  0.8%  1.9%  1.2% 96.0%
4 @ 0x3e991c0] mb I  I16..4: 41.8% 15.4% 42.8%
4 @ 0x3e991c0] mb P  I16..4:  0.7%  1.2%  2.6% P16..4:  3.3%  1.3%  0.9%
0.0%  skip:90.0%
4 @ 0x3e991c0] mb B  I16..4:  0.1%  0.1%  0.2% B16..8:  5.4%  0.5%  0.2%
t: 0.1% skip:93.5% L0:57.3% L1:41.1% BI: 1.6%
4 @ 0x3e991c0] 8x8 transform intra:23.9% inter:14.8%
4 @ 0x3e991c0] coded y,u,v intra: 44.4% 30.5% 30.5% inter:  0.8%  0.2%  0.3%
4 @ 0x3e991c0] i16 v,h,dc,p: 26% 70%  3%  1%
4 @ 0x3e991c0] i8 v,h,dc,ddl,ddr,vr,hd,vl,hu:  9% 62% 16%  1%  3%  2%  4%
%
4 @ 0x3e991c0] i4 v,h,dc,ddl,ddr,vr,hd,vl,hu: 21% 22% 22%  4%  7%  6%  9%
%
4 @ 0x3e991c0] Weighted P-Frames: Y:0.0% UV:0.0%
4 @ 0x3e991c0] ref P L0: 52.8%  9.8% 25.5% 12.0%
4 @ 0x3e991c0] ref B L0: 54.2% 42.2%  3.6%
4 @ 0x3e991c0] ref B L1: 95.2%  4.8%
    
```

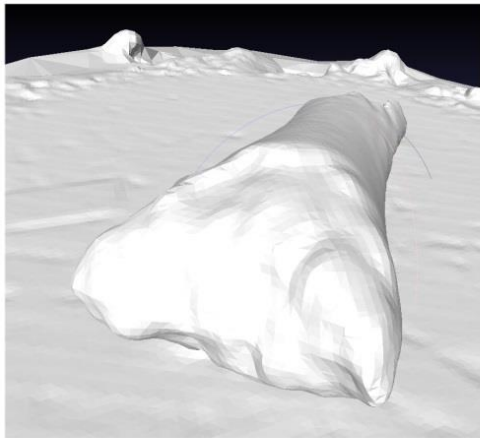

Le meshage



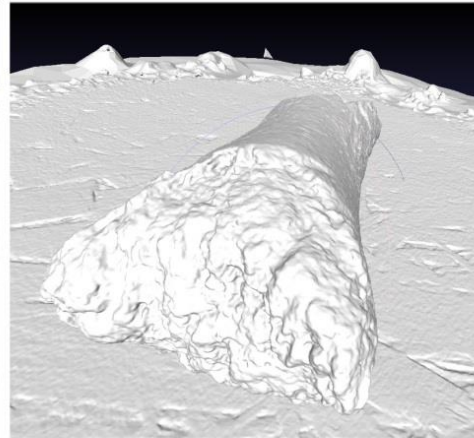
Nuage de points



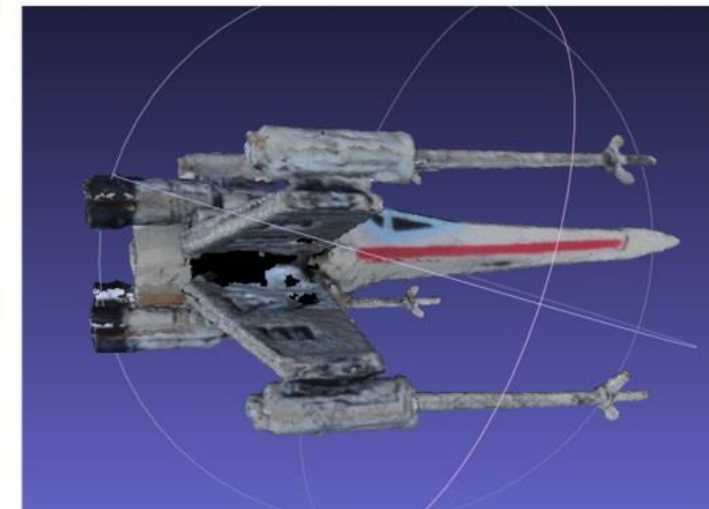
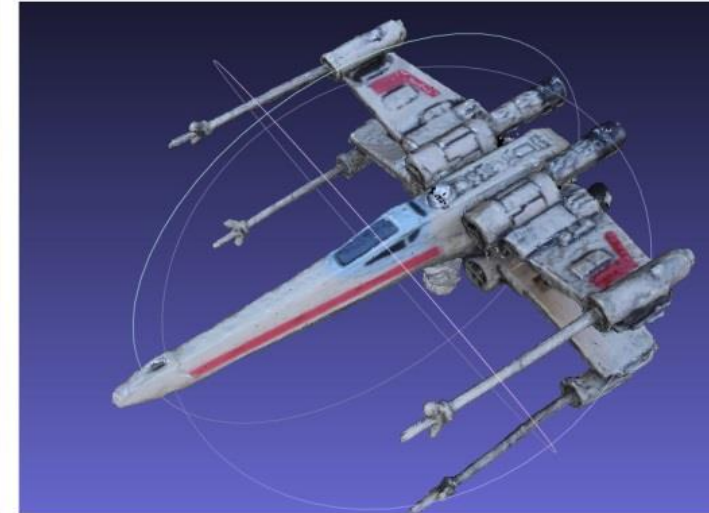
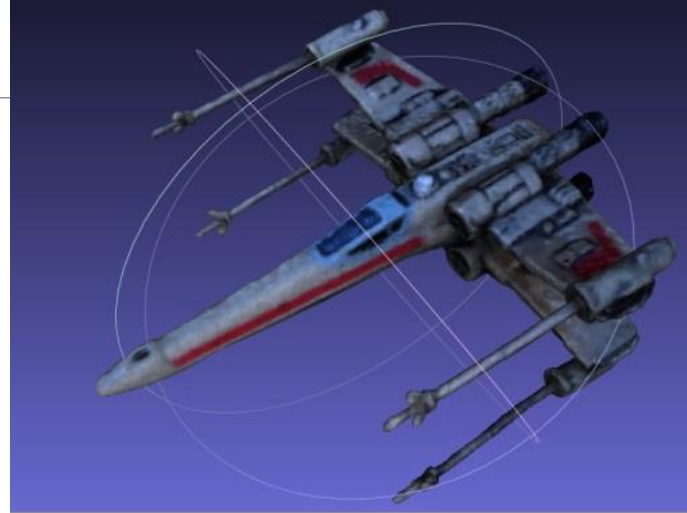
Octree 6



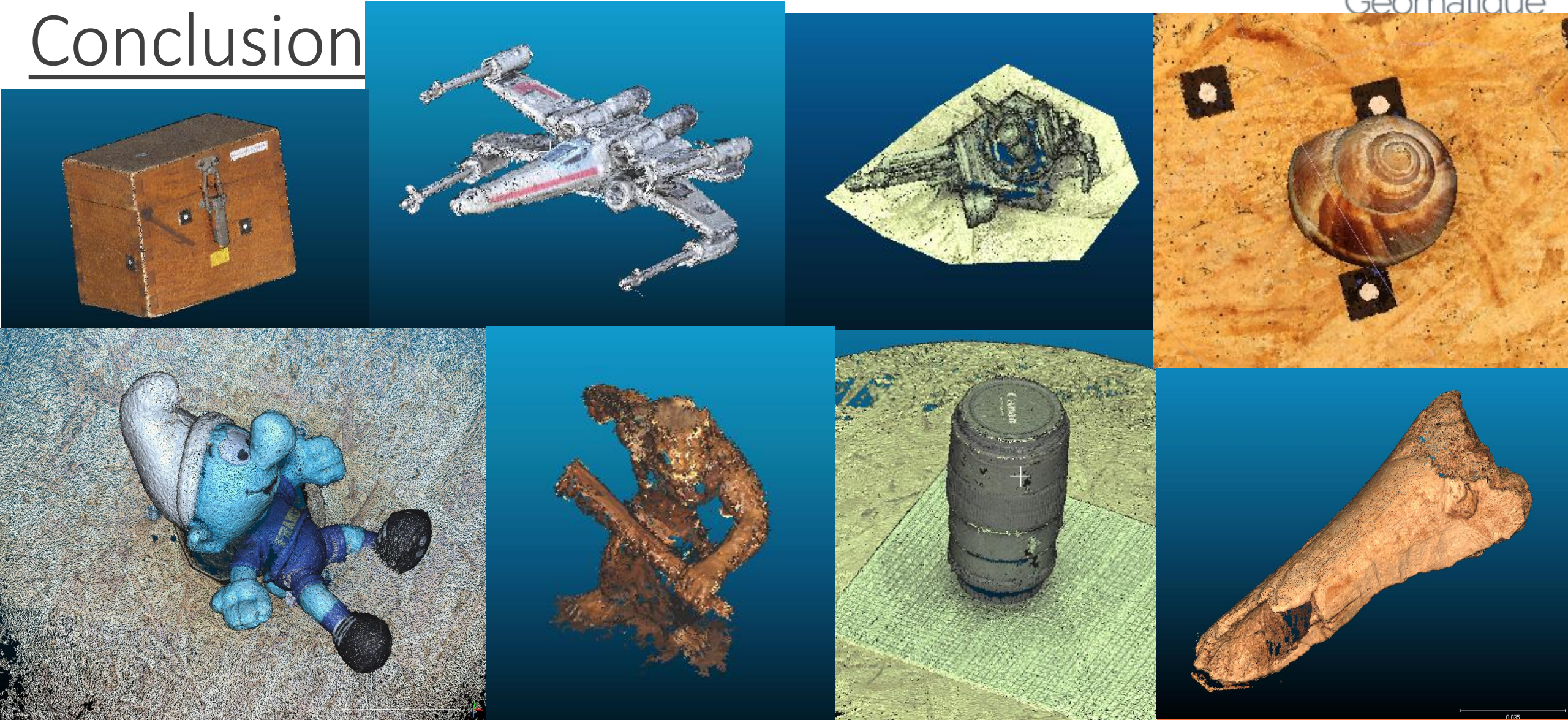
Octree 8



Octree 12



Conclusion



Merci pour votre attention !

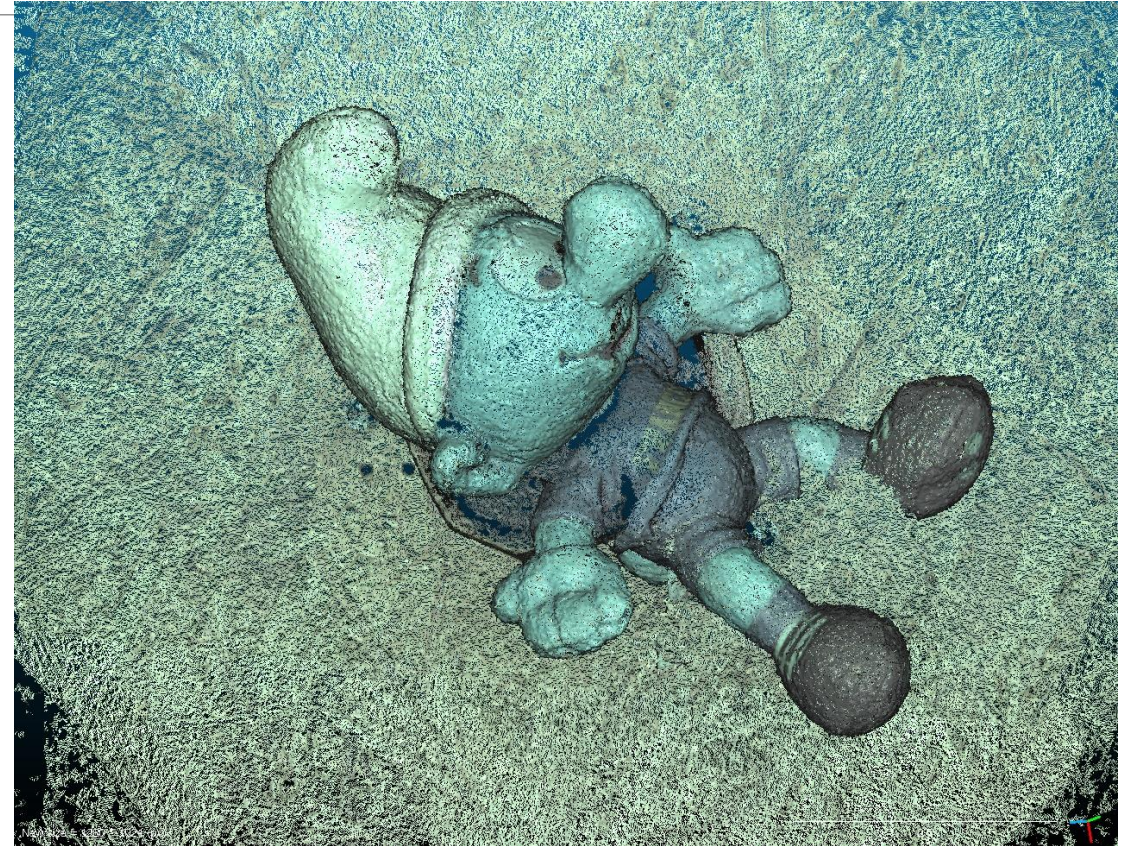
Fond blanc



Comparaison RAW/JPG



JPG



RAW (.CR2)