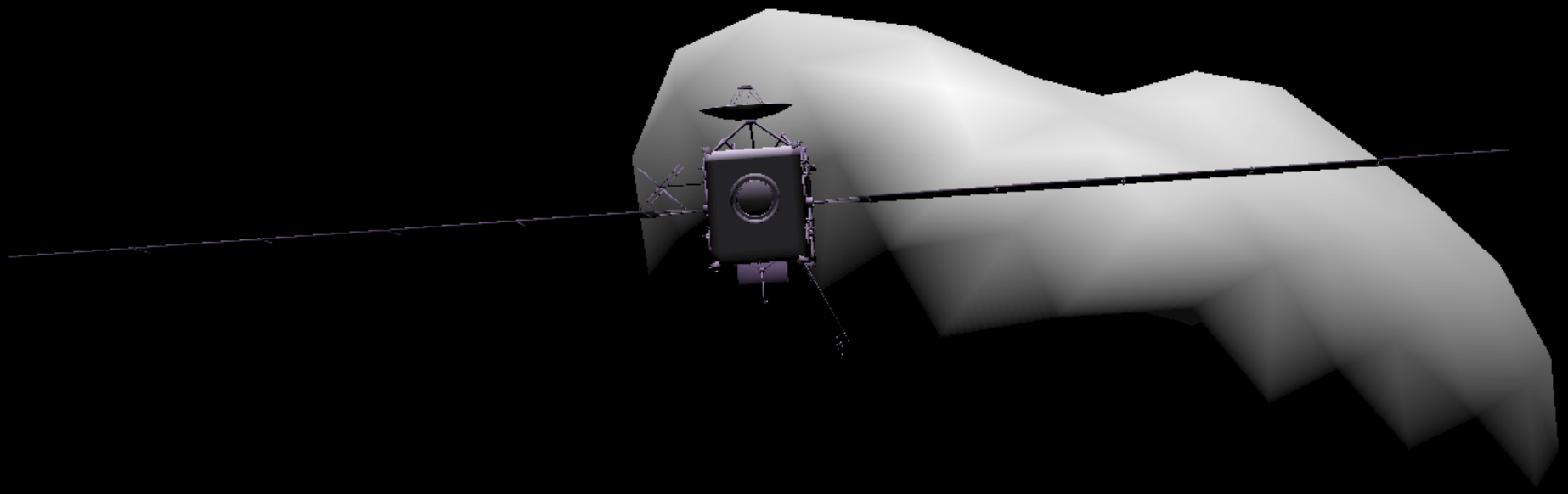
Review of
ro-c-multi-5-67p-shape-v1.0



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Approach

- Last time, I checked the consistency between different resolution versions, between shape models and preview images, and with the ESA shape model.
- This time, I have not repeated these consistency checks.
- Instead, I have done an end-to-end check by simulating images from the shape models and comparing these with actual NAVCAM images.
- Only the highest resolution shape model versions have been used.

NAVCAM images

- 13 images with one hour time step
- Images corrected for geometric distorsion

Correcting NAVCAM geometric distorsion

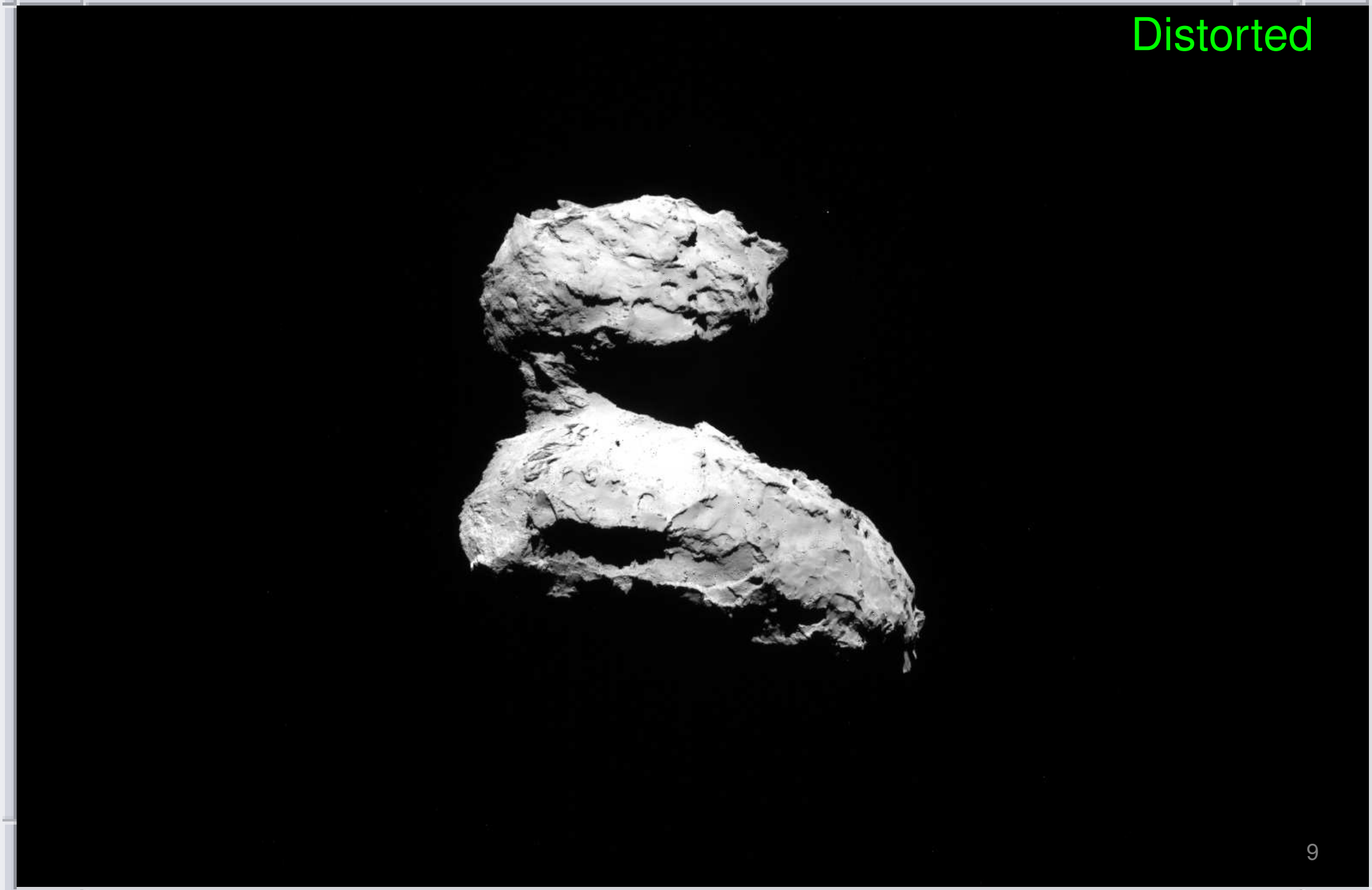
Correcting NAVCAM geometric distorsion

Correcting NAVCAM geometric distorsion

Correcting NAVCAM geometric distorsion

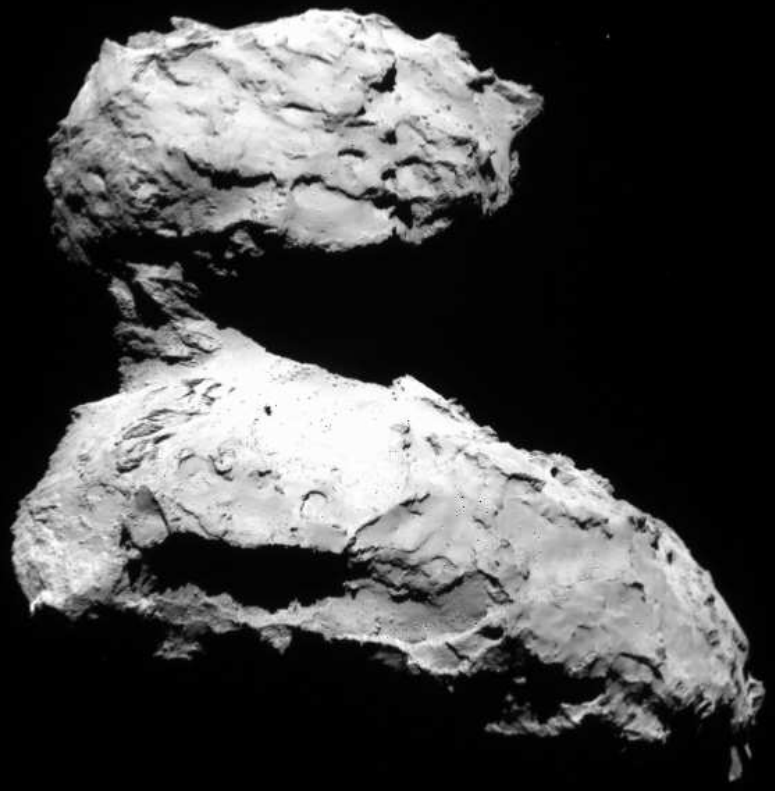
Correcting NAVCAM geometric distorsion

Correcting NAVCAM geometric distorsion



Correcting NAVCAM geometric distorsion

Corrected



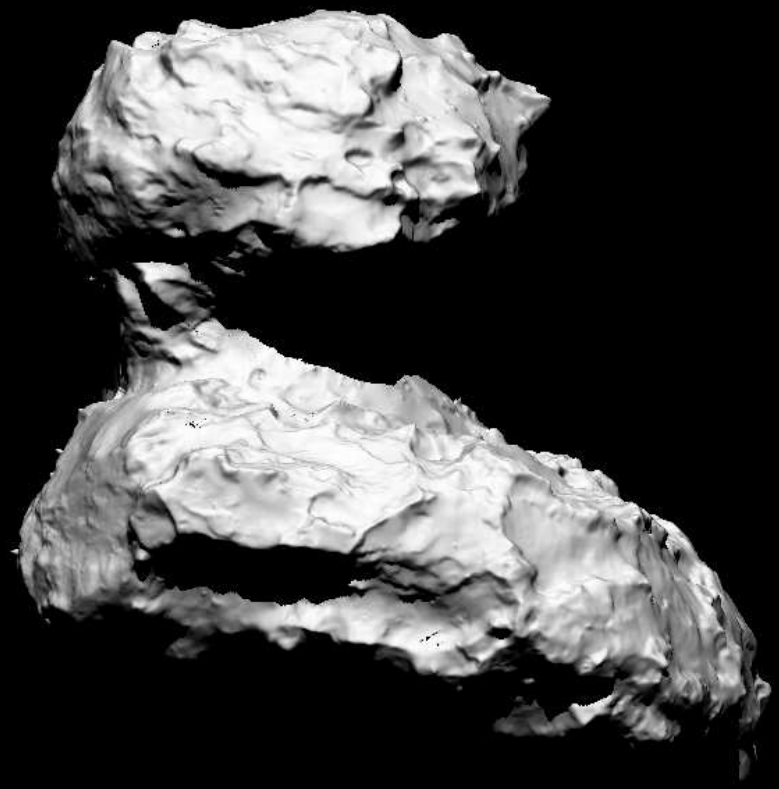
Simulating images

- Geometry information is taken from respective SPICE kernels or MOC files.
- The rendered shape is taken from the triplate models.
- The computation of self-shadowing is based on the DSKs.

$\rightarrow$ Consistency with real NAVCAM images verifies

  - geometry information,
  - triplate models,
  - DSKs.

Simulated image from ESA shape model



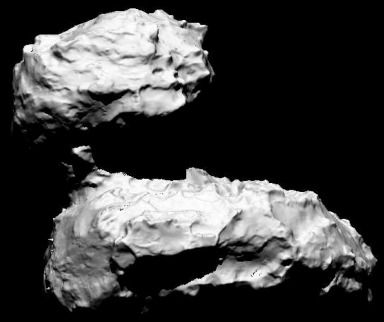
OSIRIS imaging periods for SHAP2

Time	Distance	Lat
2014-07-14T14:24	11 500 km	51°
2014-07-15T02:04	10 800 km	51°
2014-07-21T14:34	4 900 km	49°
2014-07-22T00:44	4 600 km	49°
2014-08-01T11:49	820 km	38°
2014-08-01T21:24	700 km	35°
2014-08-03T11:04	290 km	8°
2014-08-03T21:39	220 km	8°

NAVCAM imaging used for comparison

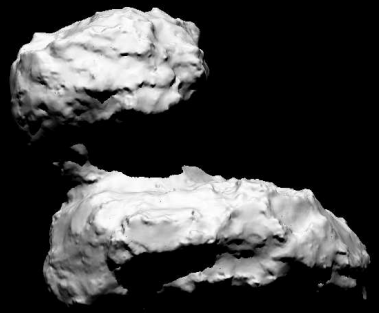
Time	Distance	Lat
2014-07-14T14:24	11 500 km	51°
2014-07-15T02:04	10 800 km	51°
2014-07-21T14:34	4 900 km	49°
2014-07-22T00:44	4 600 km	49°
2014-08-01T11:49	820 km	38°
2014-08-01T21:24	700 km	35°
2014-08-03T11:04	290 km	8°
2014-08-03T21:39	220 km	8°
2014-08-06T23:07	93 km	31°
2014-08-07T11:07	85 km	42°

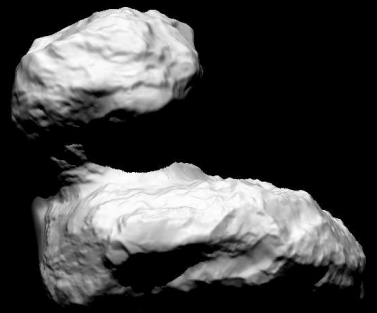
Real world



ESA

LAM





LAM/PSI

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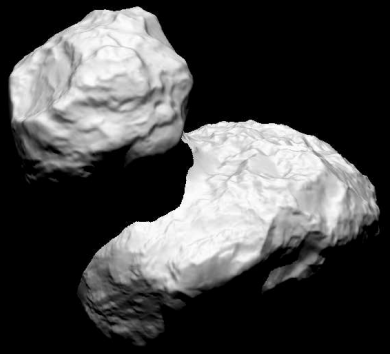
Real world

ESA

LAM



LAM/PSI

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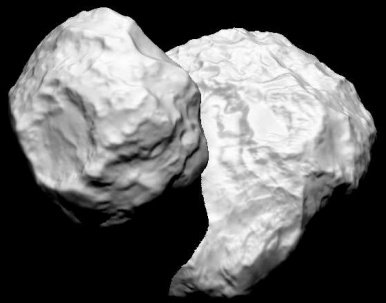
Real world

ESA

LAM



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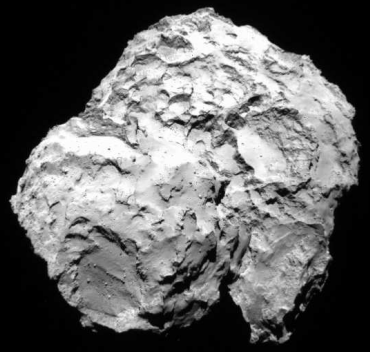

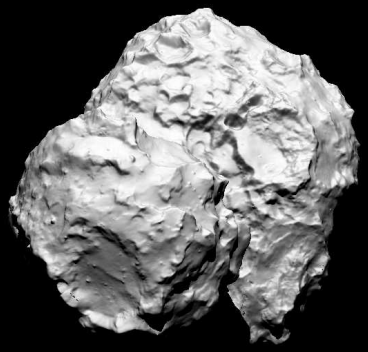

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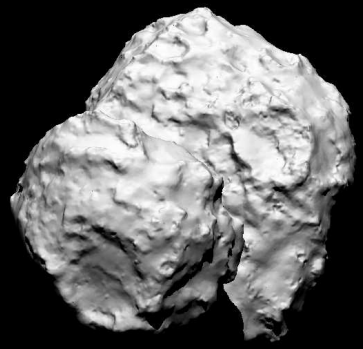

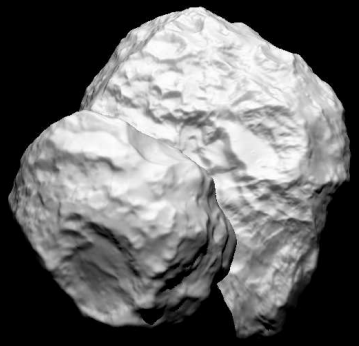

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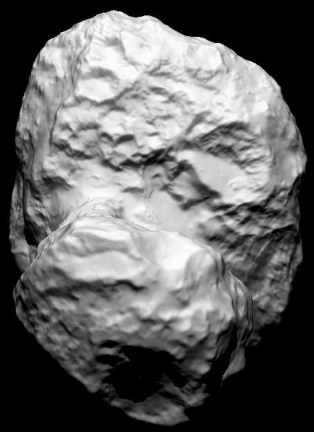
Real world

ESA

LAM



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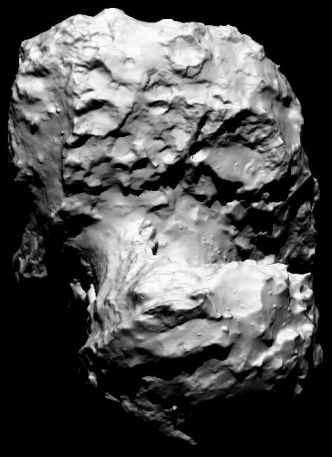

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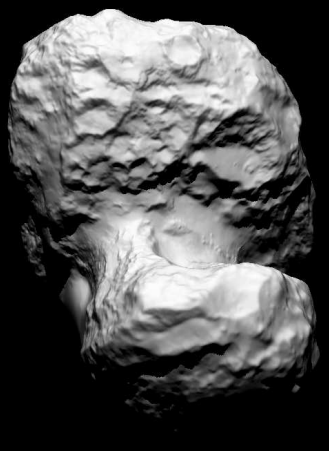

LAM/PSI

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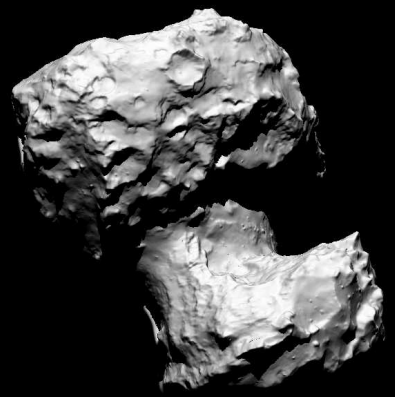

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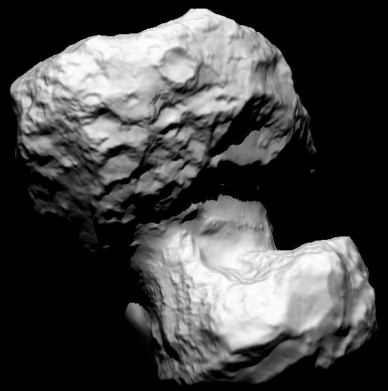

LAM/PSI

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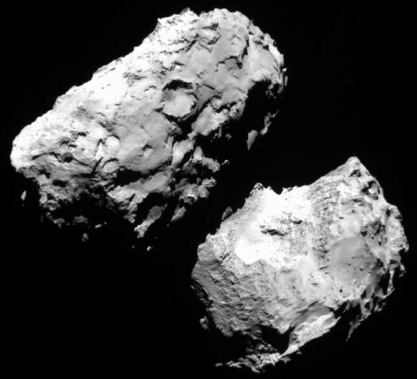

ESA

LAM

LAM/PSI

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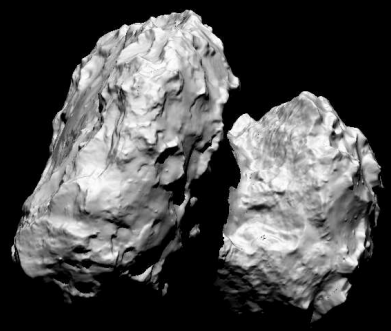

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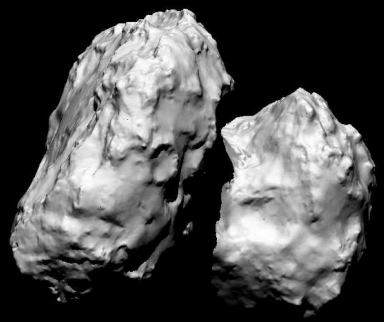

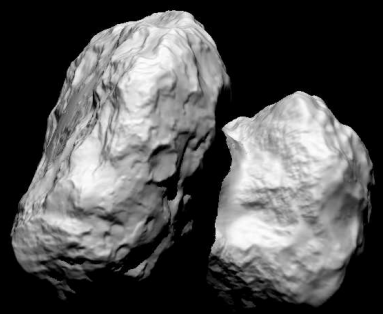

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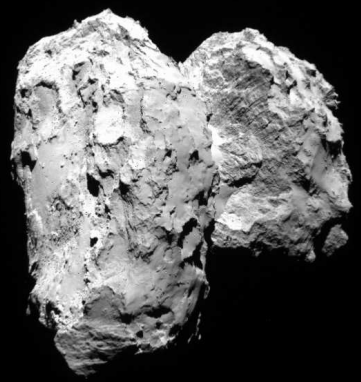

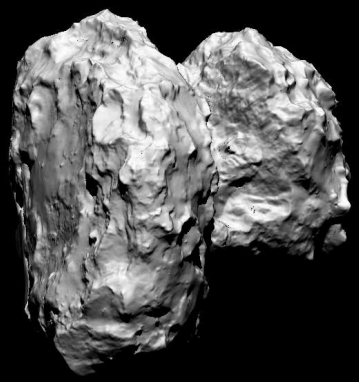

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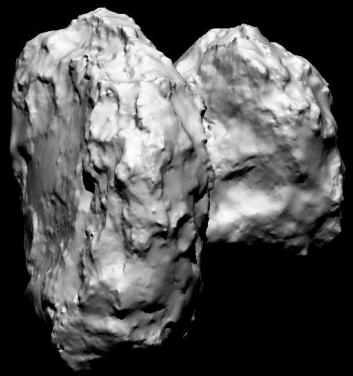

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Real world

ESA

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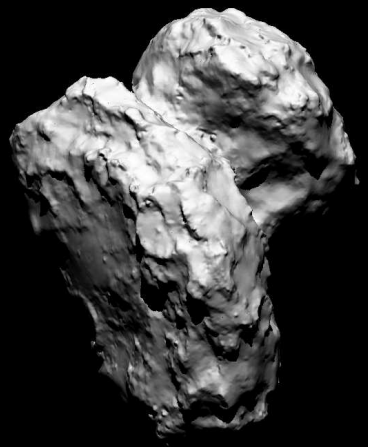

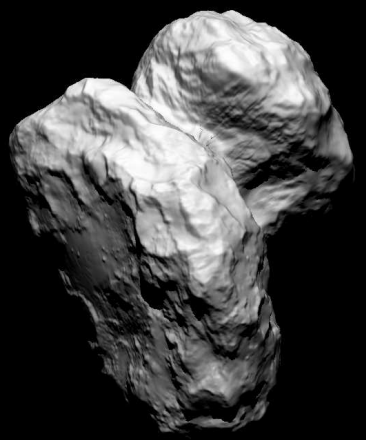

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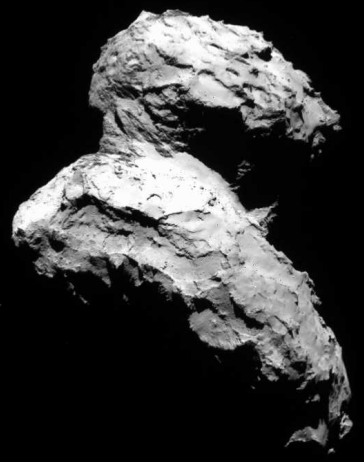

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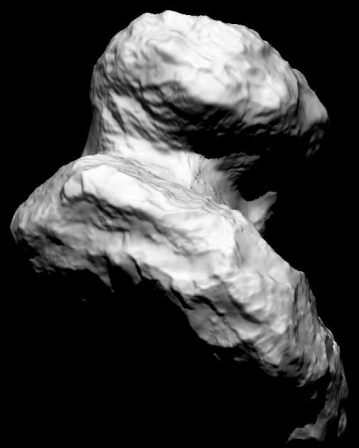
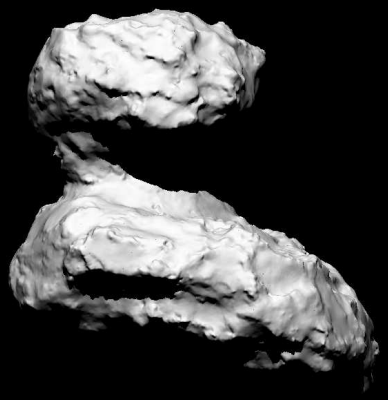


LAM/PSI

Real world

ESA

LAM



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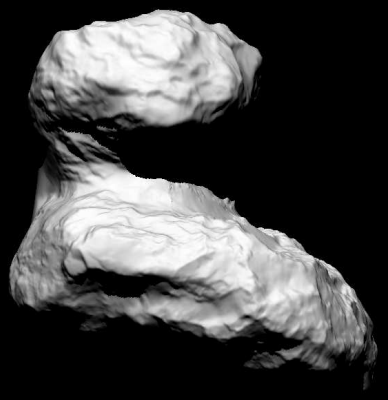

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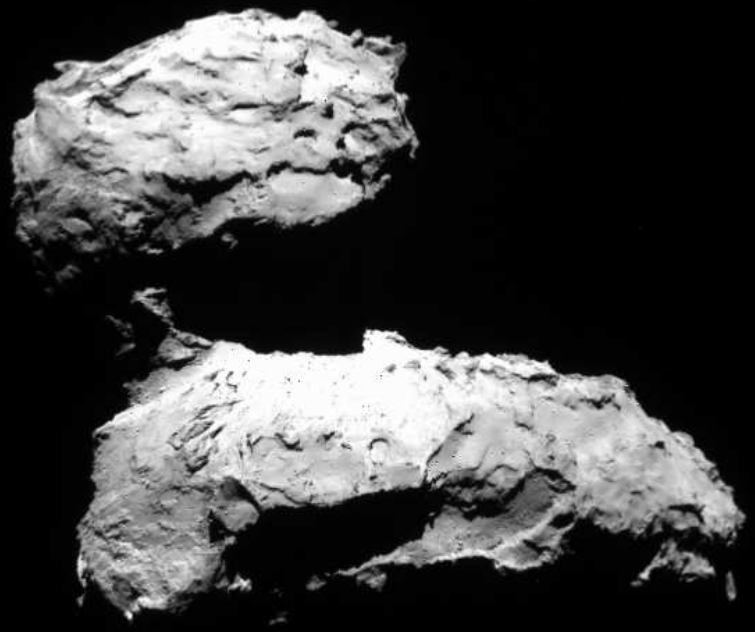
Real world



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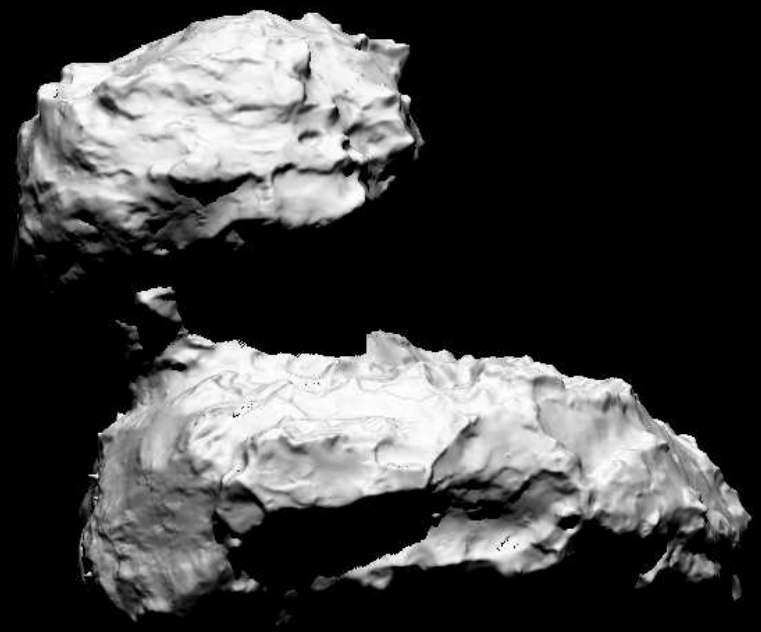

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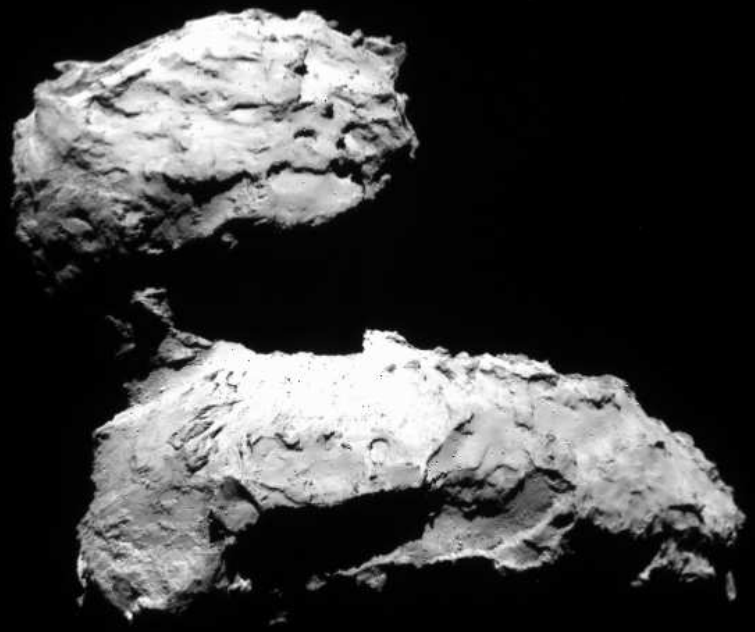

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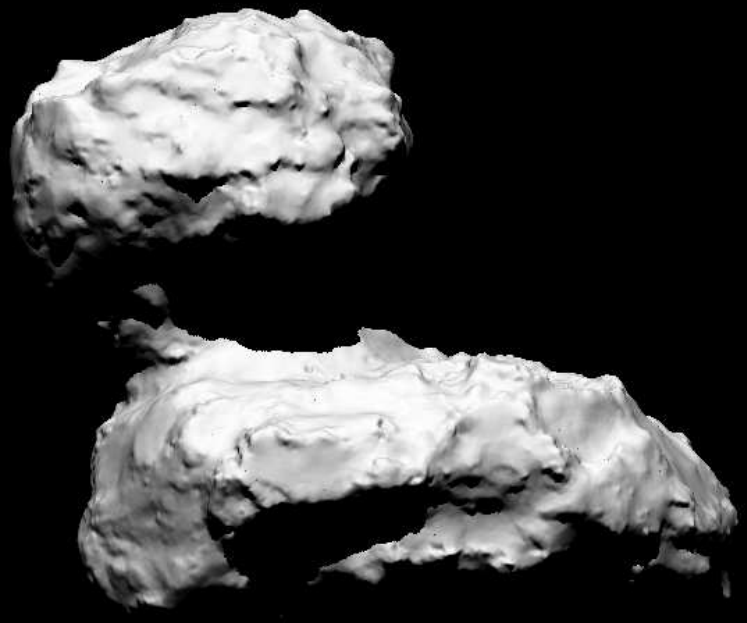

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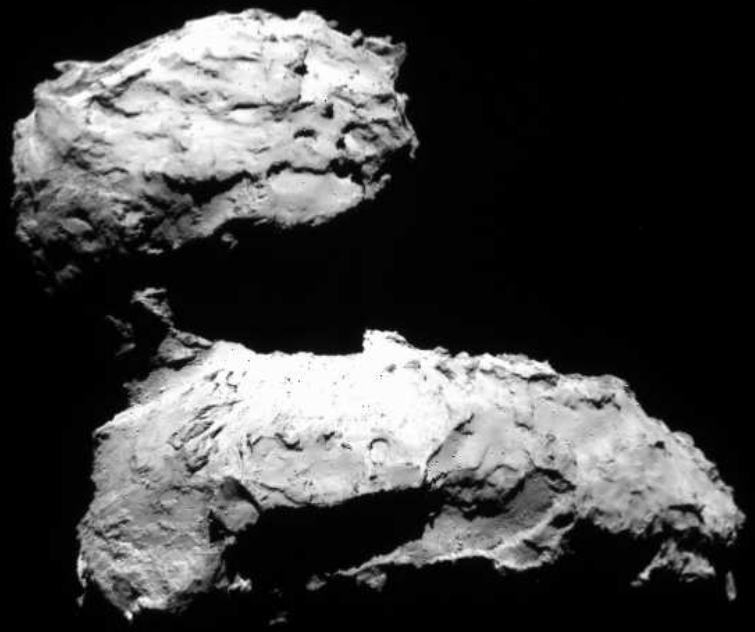
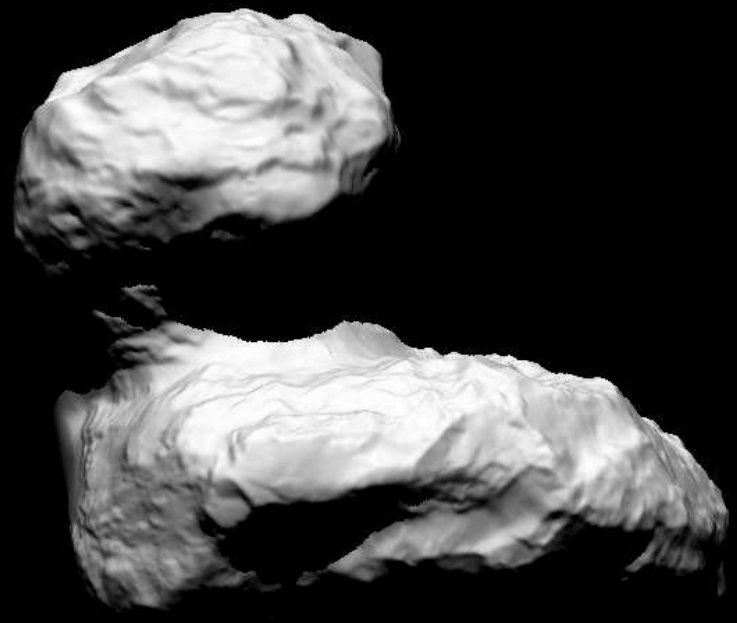


LAM/PSI



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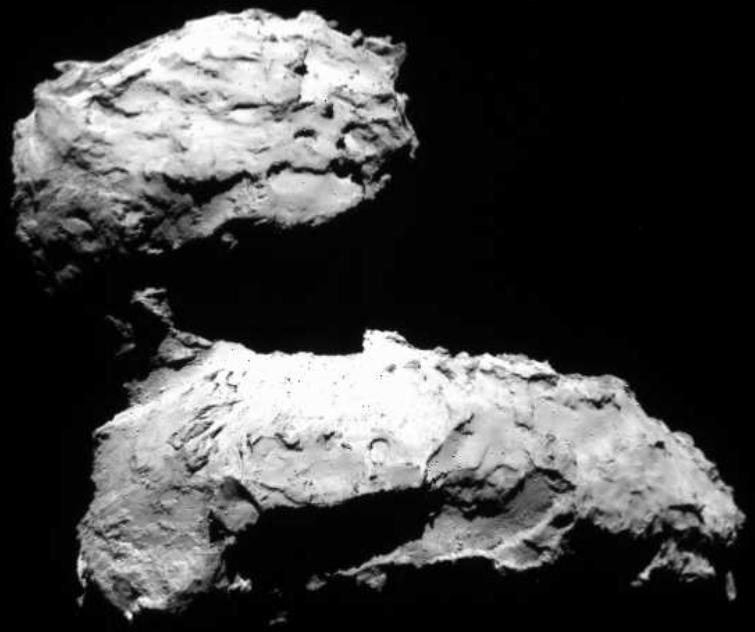
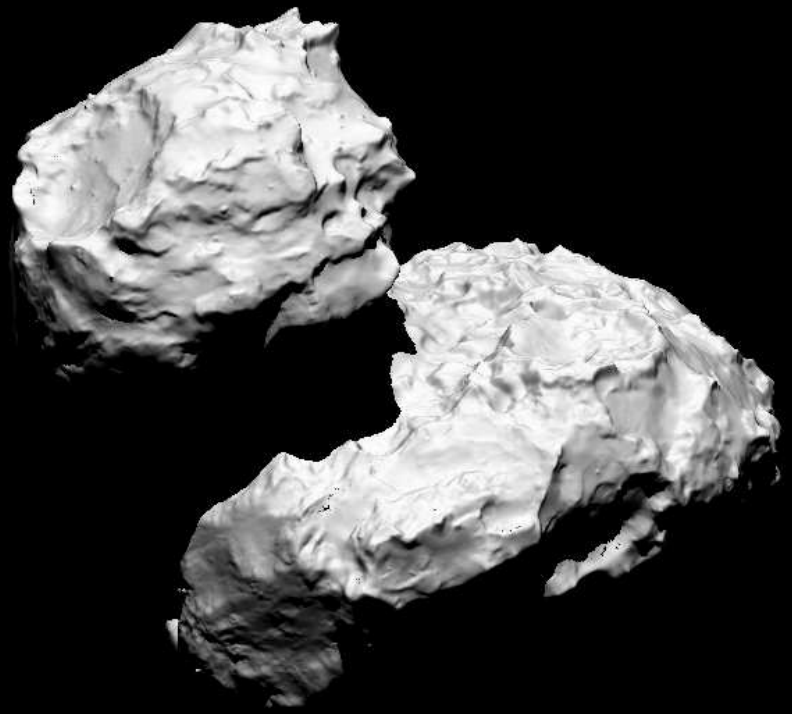


2014-08-06T00:07:18

Real world

2014-08-06T00:07:18

ESA



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Real world

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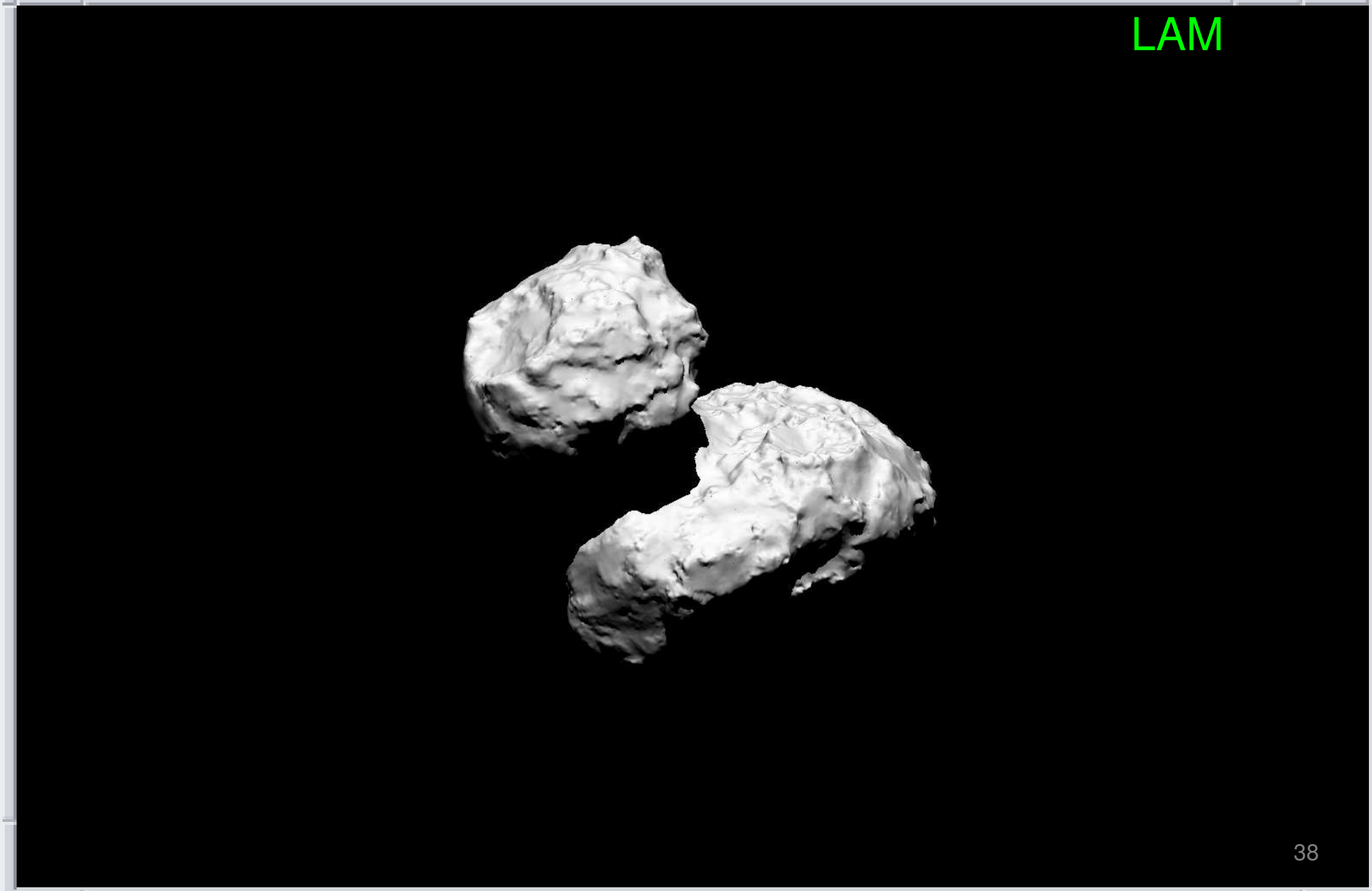

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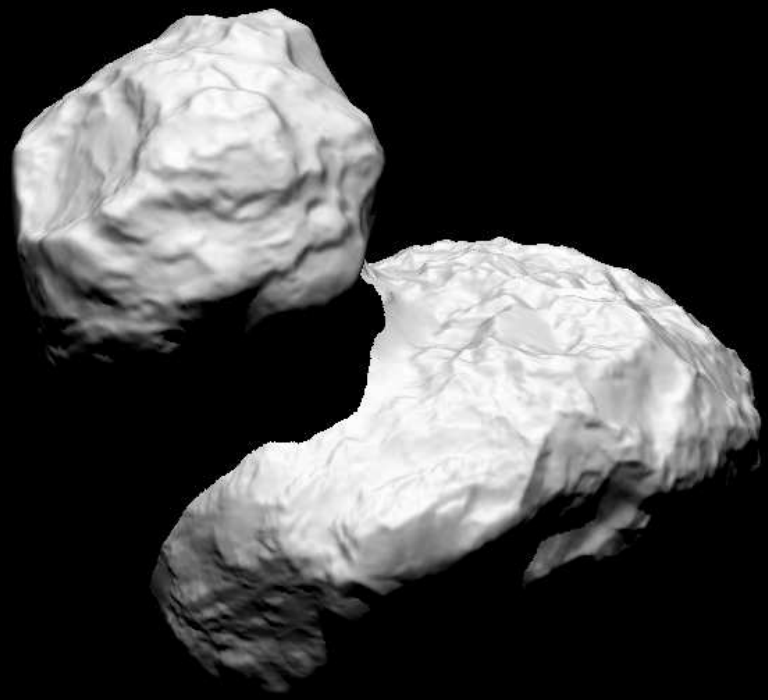
Real world

2014-08-06T00:07:18

LAM/PSI



2014-08-06T00:07:18

Real world

2014-08-06T01:07:18

Real world

2014-08-06T01:07:18

ESA

2014-08-06T01:07:18

Real world

2014-08-06T01:07:18

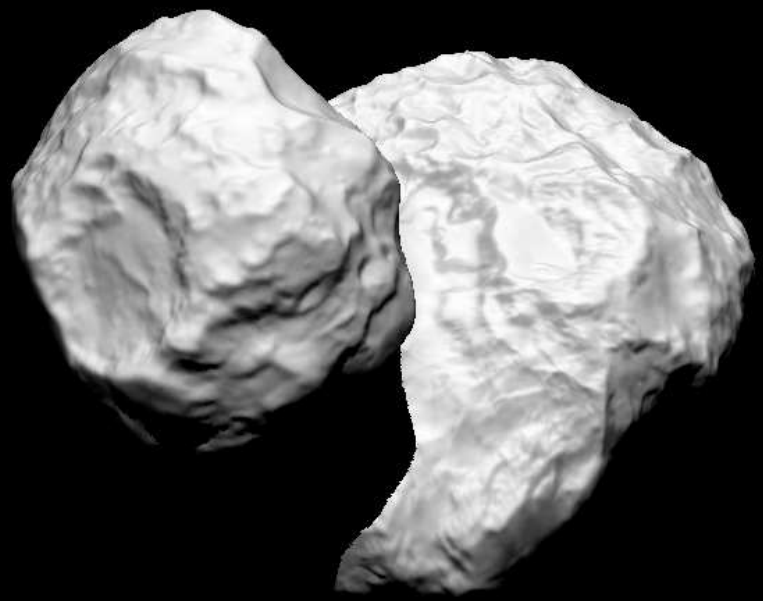
LAM

2014-08-06T01:07:18

Real world

2014-08-06T01:07:18

LAM/PSI



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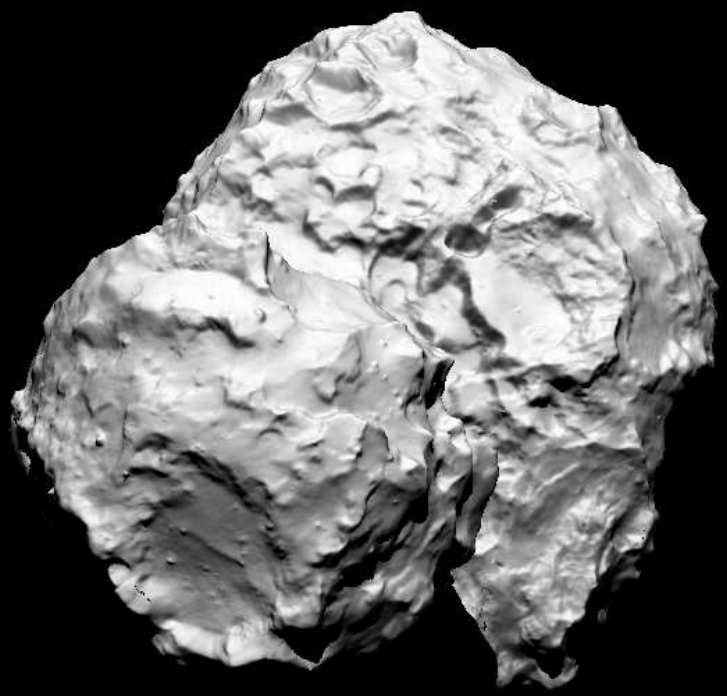
Real world

2014-08-06T02:07:18

Real world

2014-08-06T02:07:18

ESA



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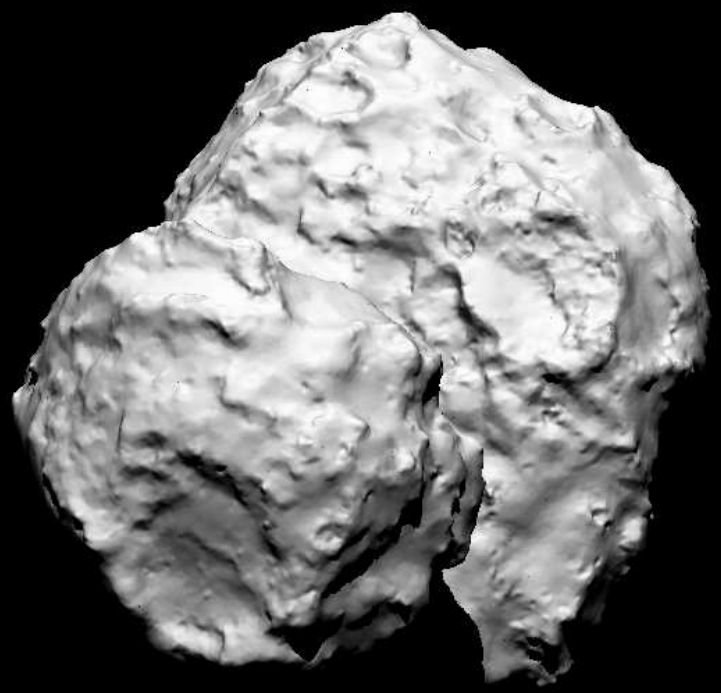
Real world

2014-08-06T02:07:18

LAM



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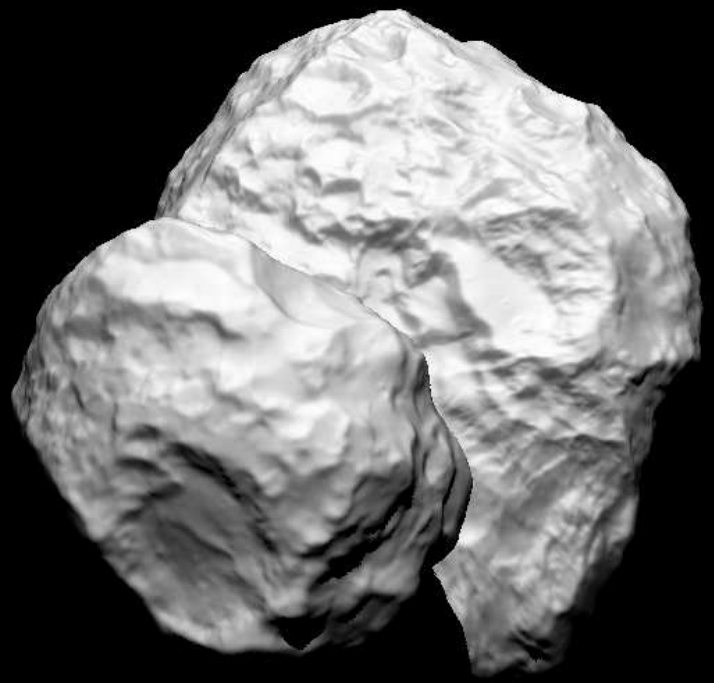
Real world

2014-08-06T02:07:18

LAM/PSI



2014-08-06T02:07:18

Real world

2014-08-06T03:07:18

Real world

2014-08-06T03:07:18

ESA

2014-08-06T03:07:18

Real world

2014-08-06T03:07:18

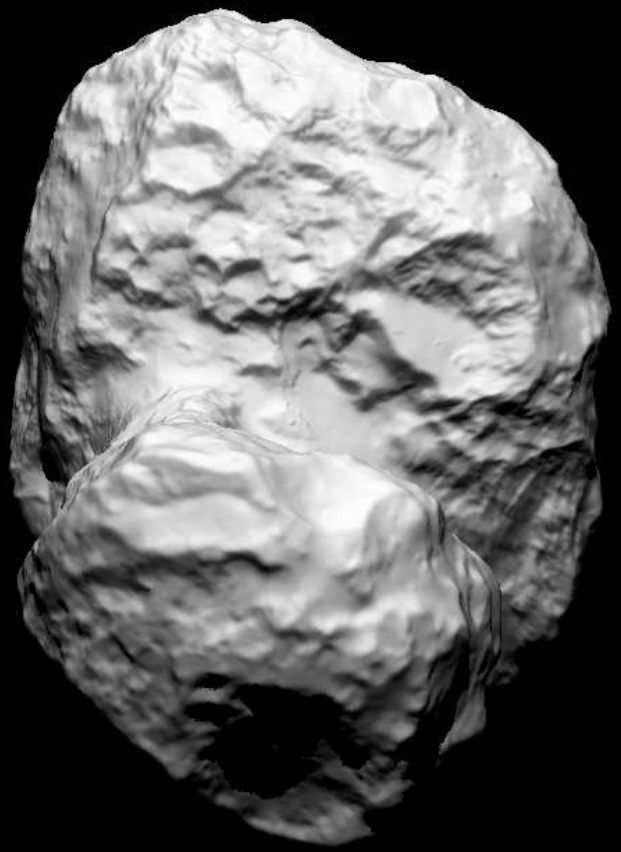
LAM

2014-08-06T03:07:18

Real world

2014-08-06T03:07:18

LAM/PSI



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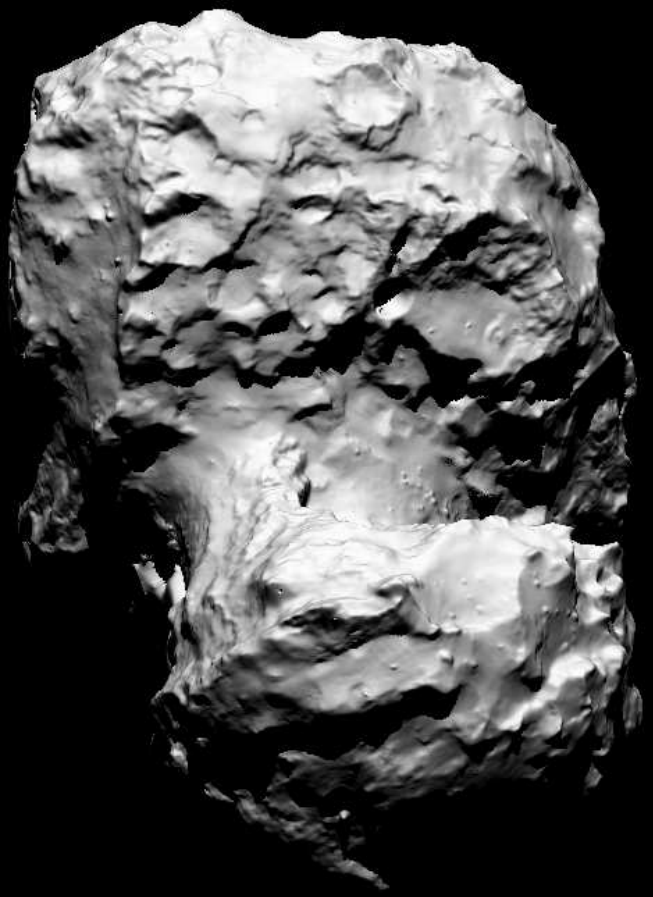
Real world

2014-08-06T04:07:18

Real world

2014-08-06T04:07:18

ESA



2014-08-06T04:07:18

Real world

2014-08-06T04:07:18

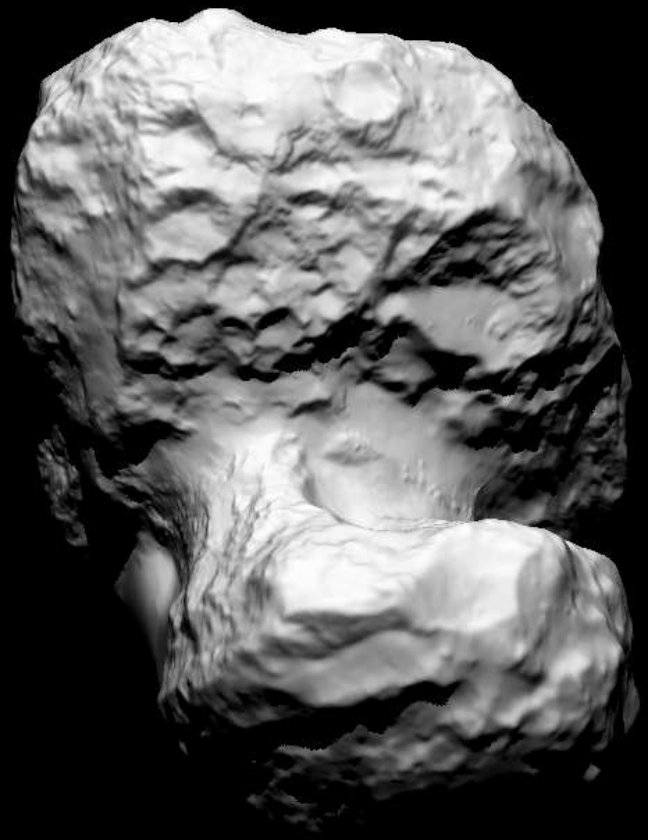
LAM

2014-08-06T04:07:18

Real world

2014-08-06T04:07:18

LAM/PSI



2014-08-06T04:07:18

Real world

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Real world

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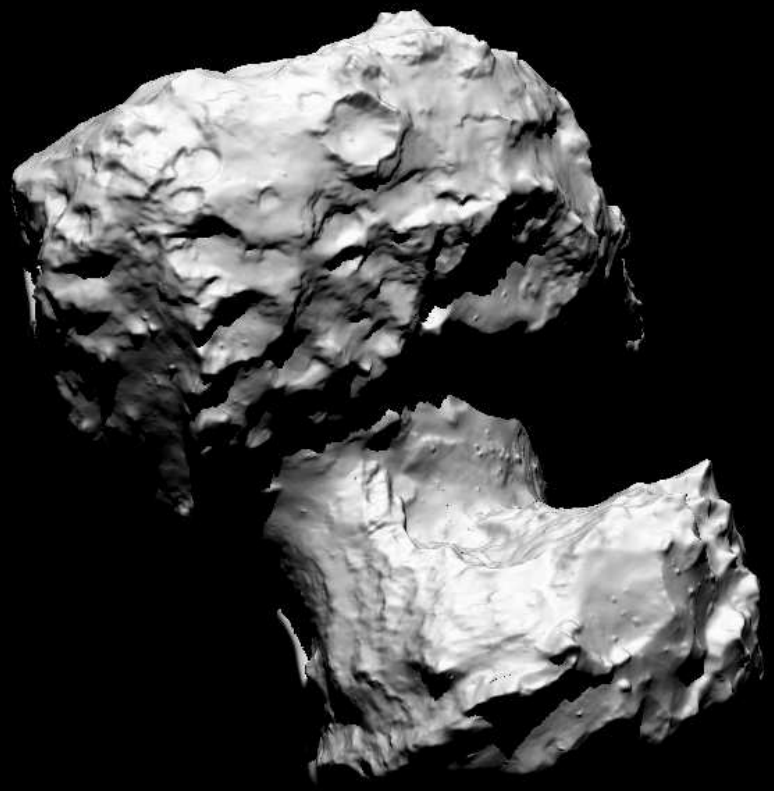
ESA



2014-08-06T05:07:18

Real world

2014-08-06T05:07:18

LAM

2014-08-06T05:07:18

Real world

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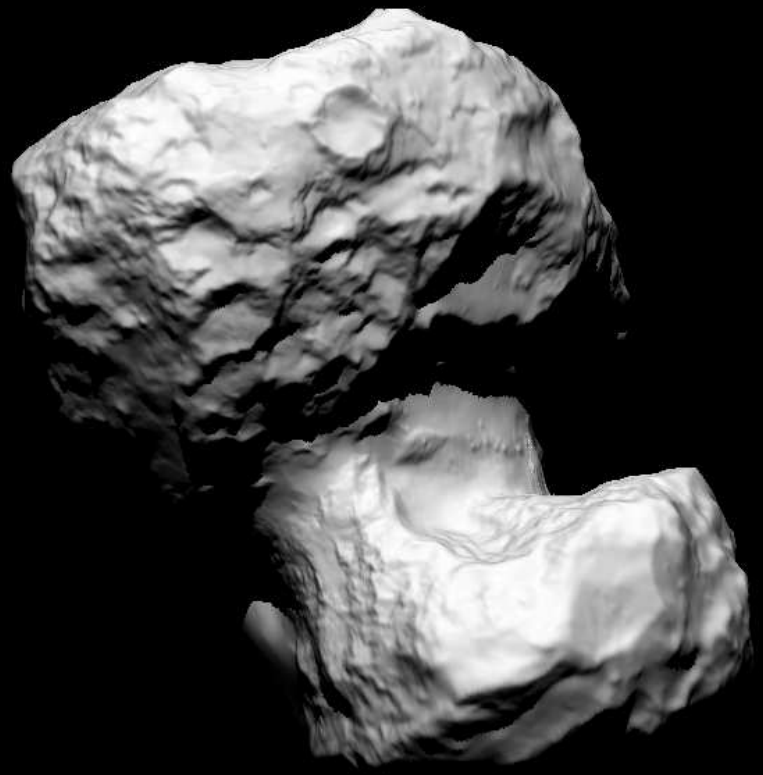
LAM/PSI



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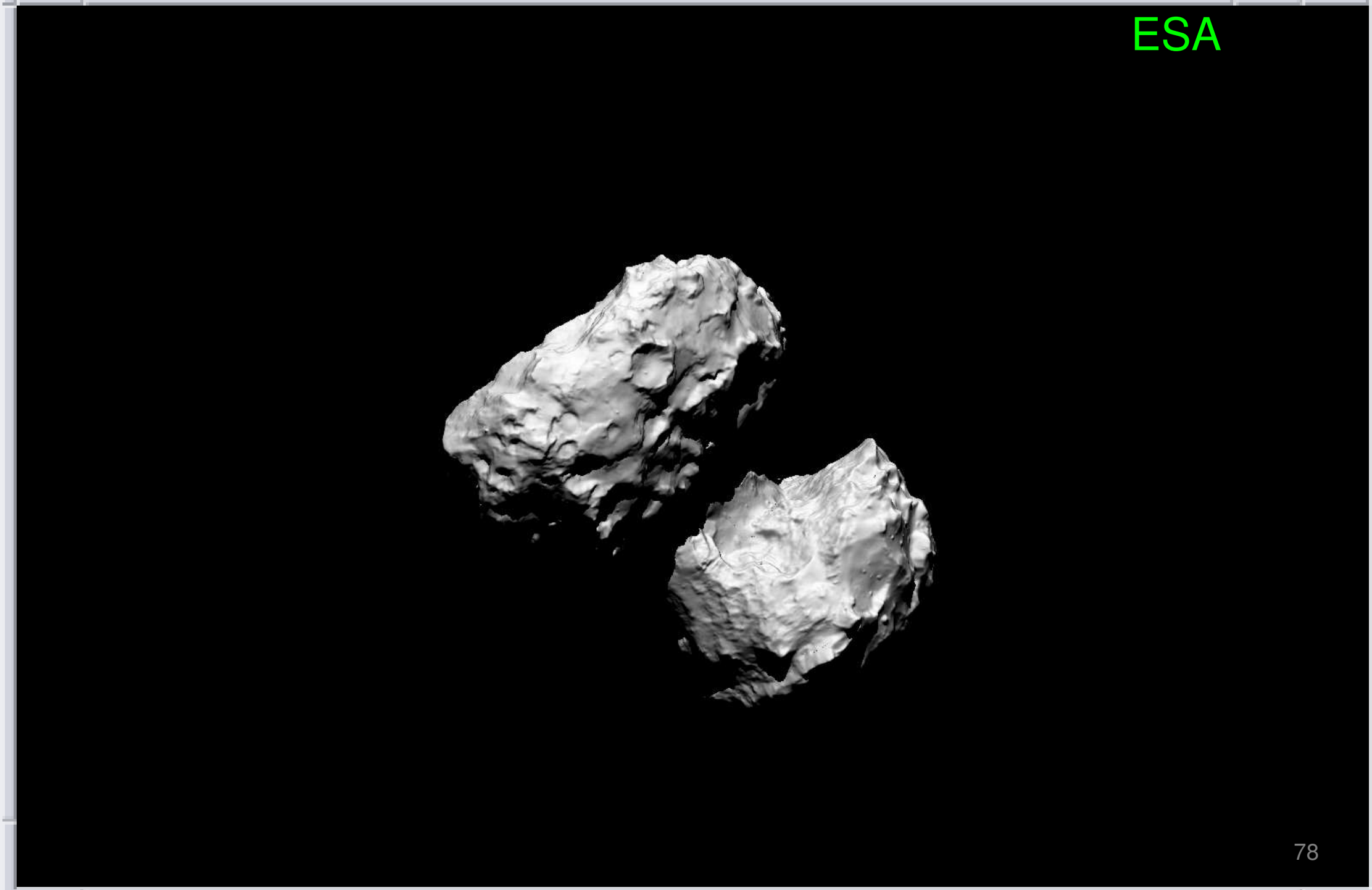

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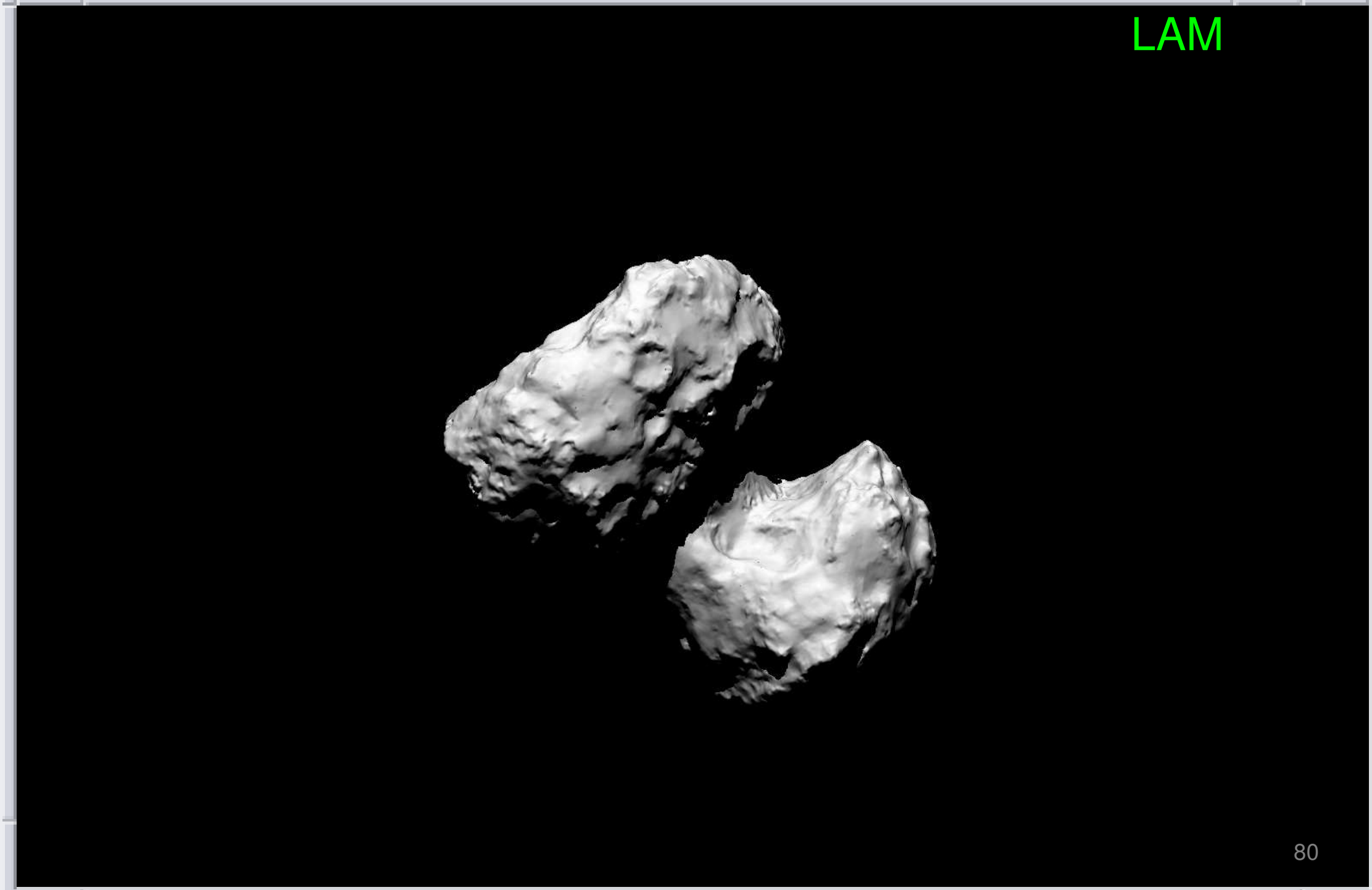

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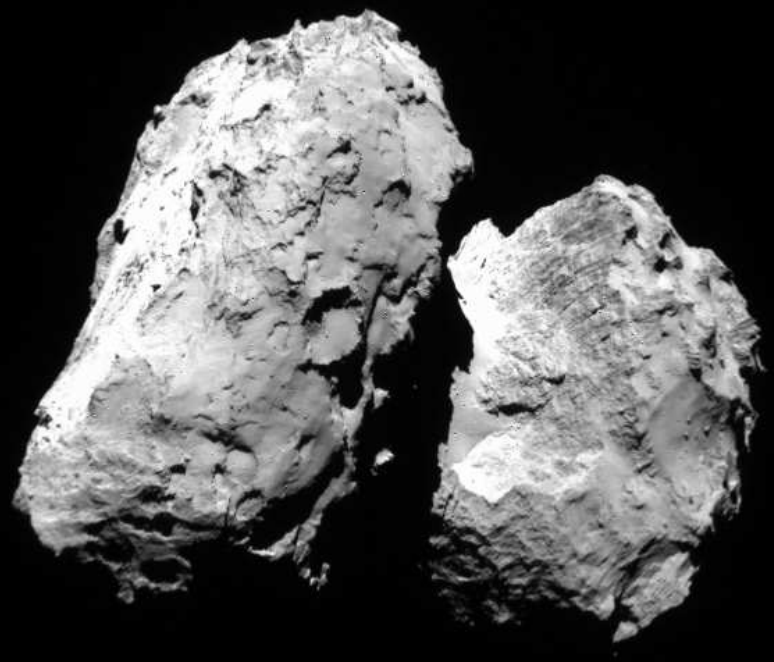

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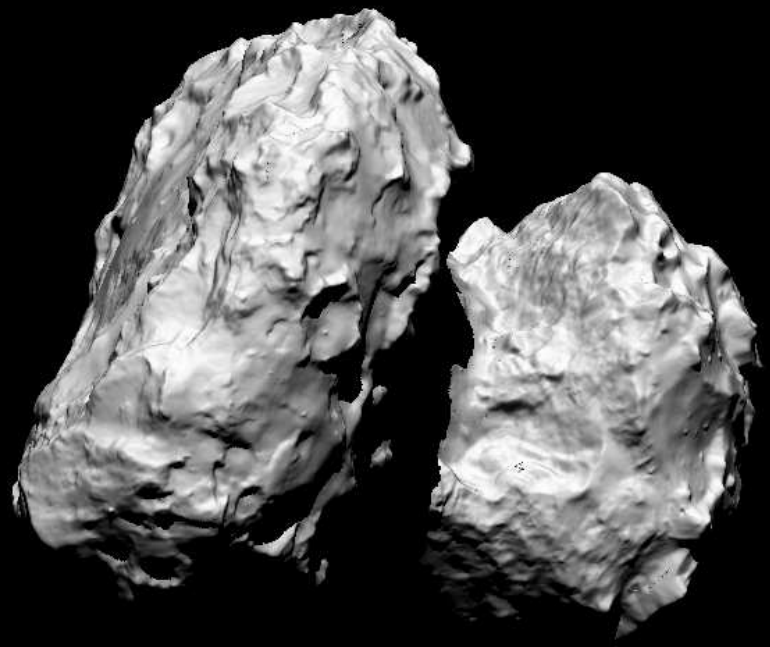

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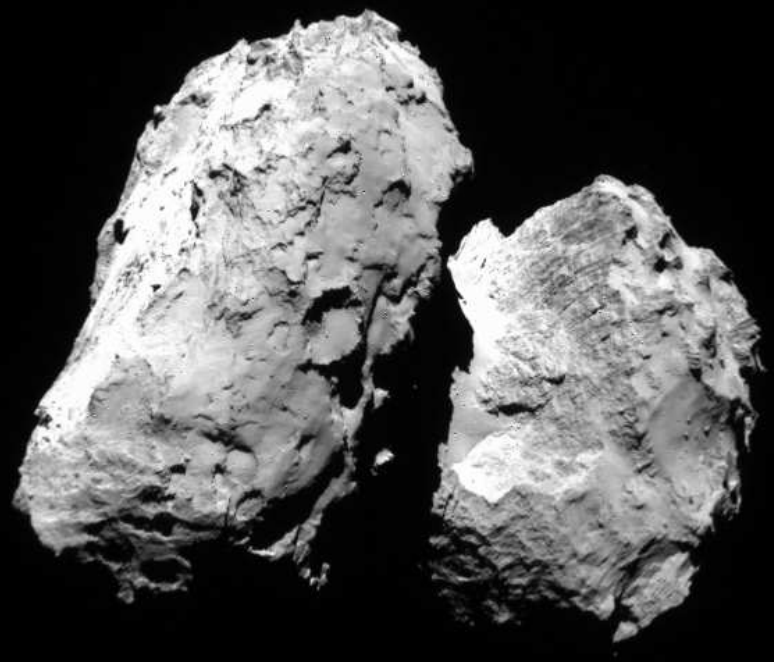

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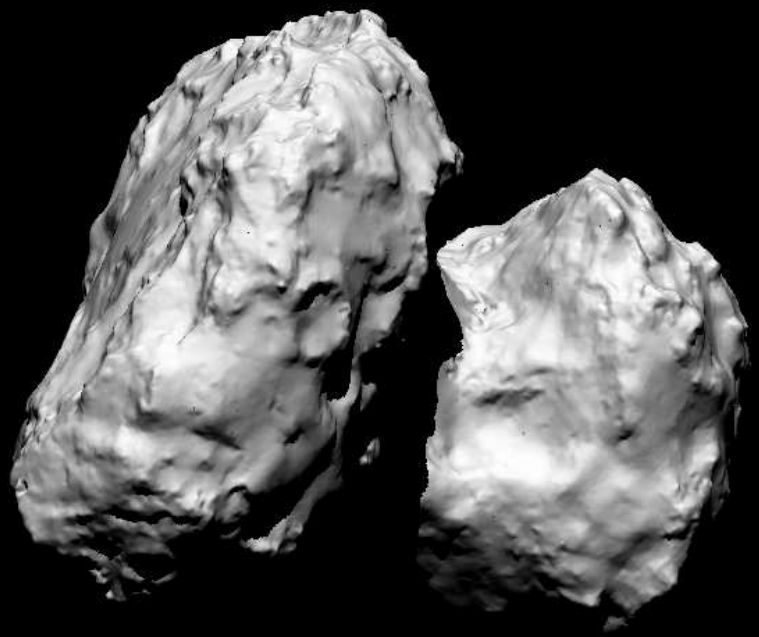

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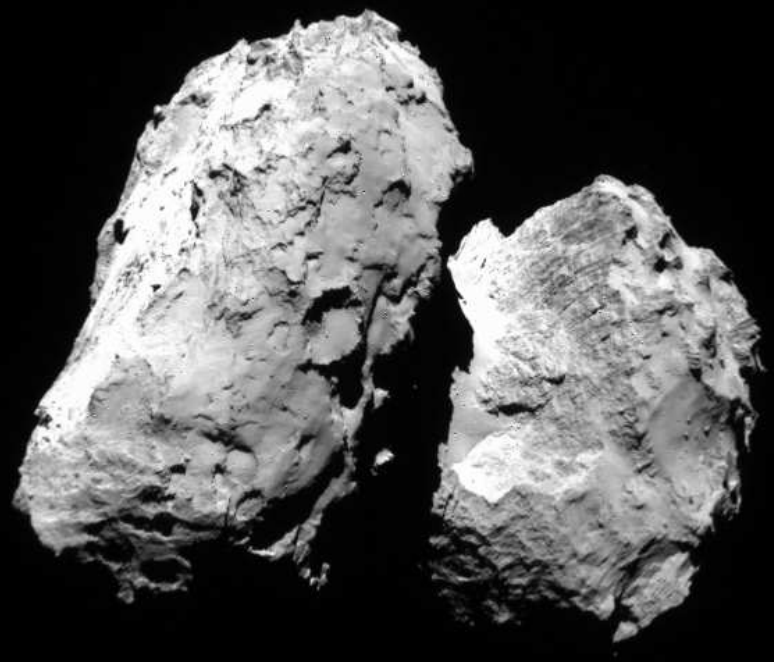

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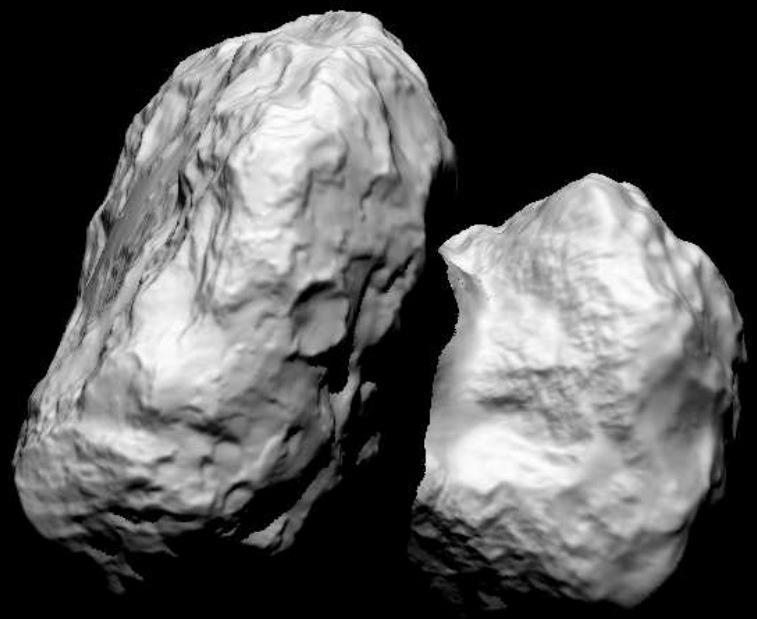

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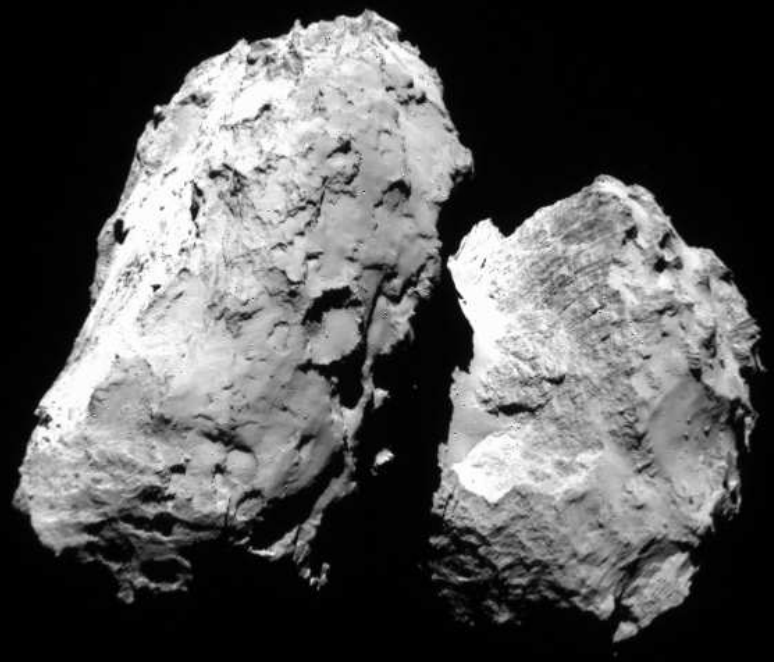

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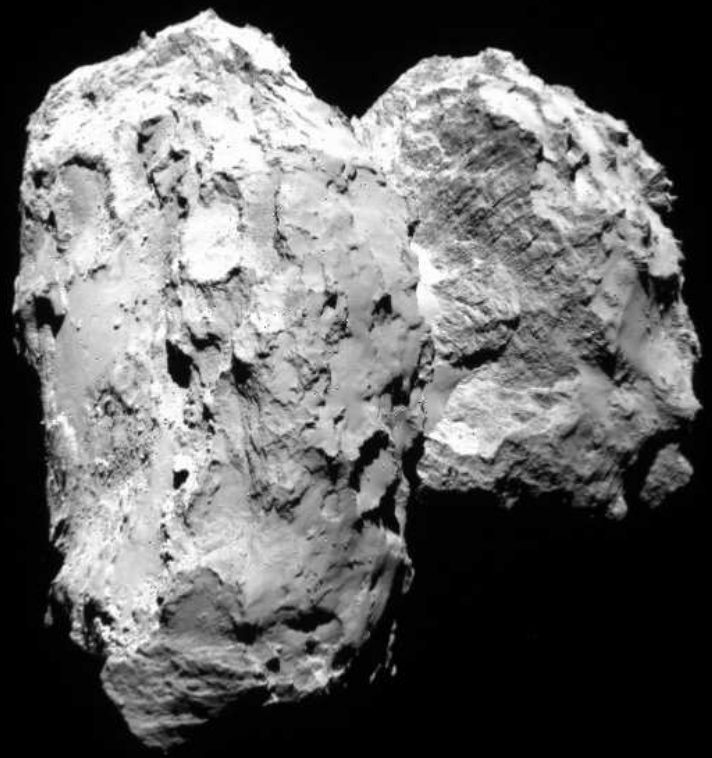

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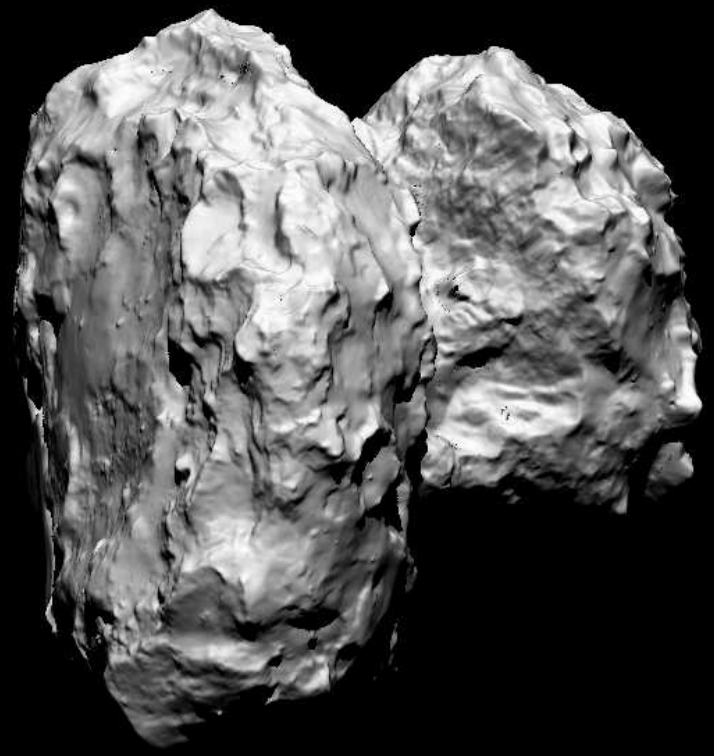

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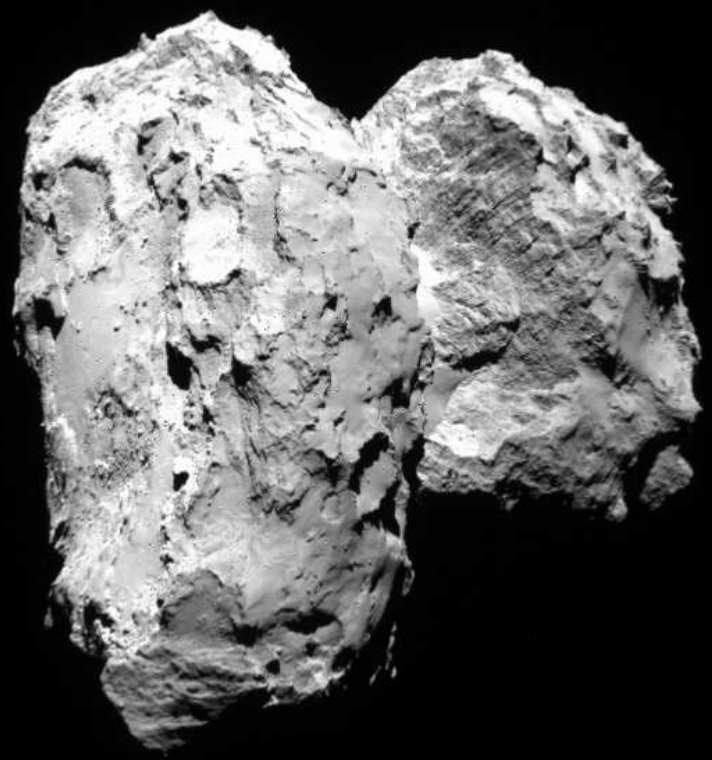

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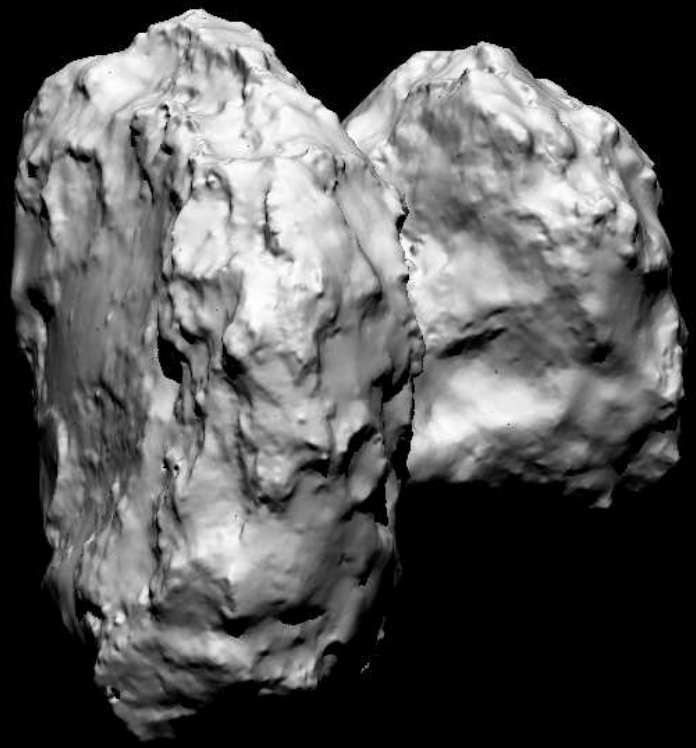

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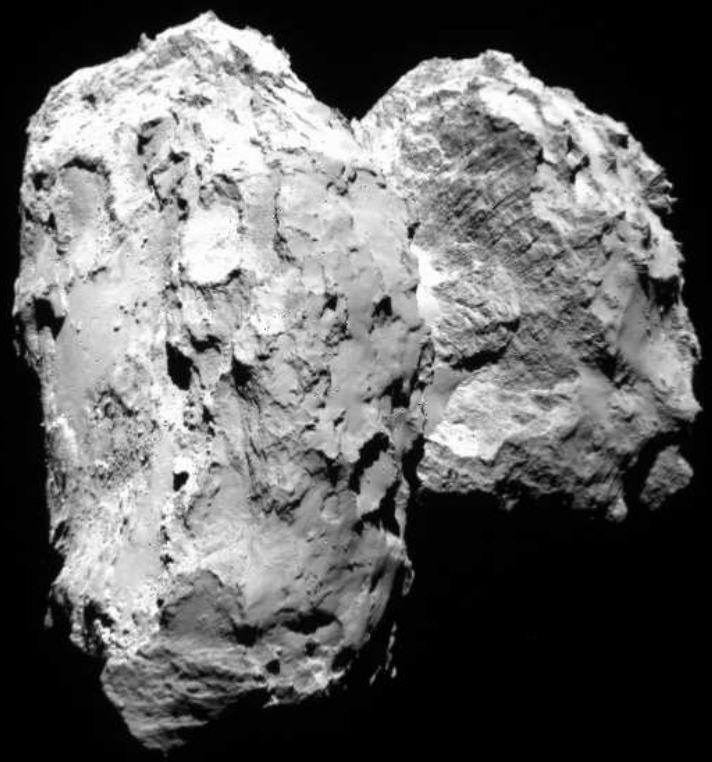

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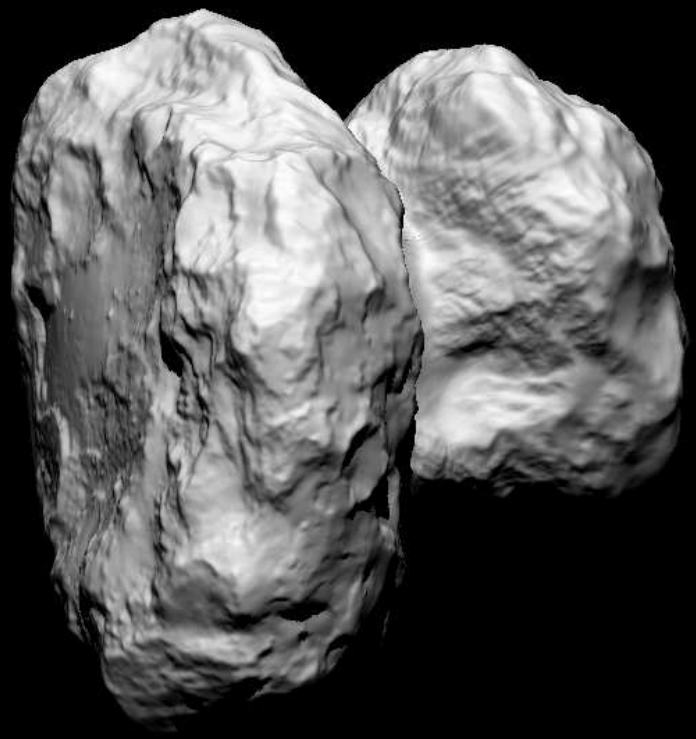

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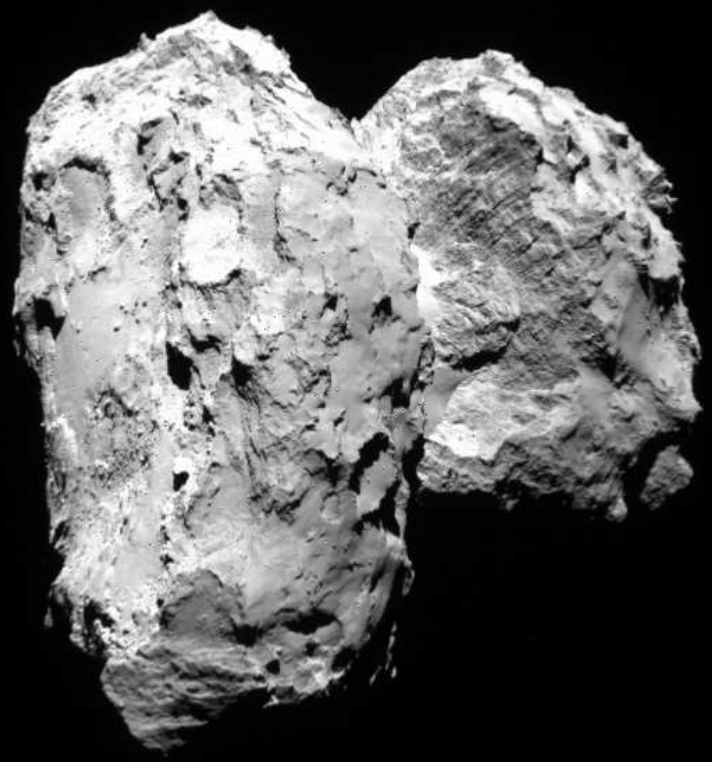

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Real world

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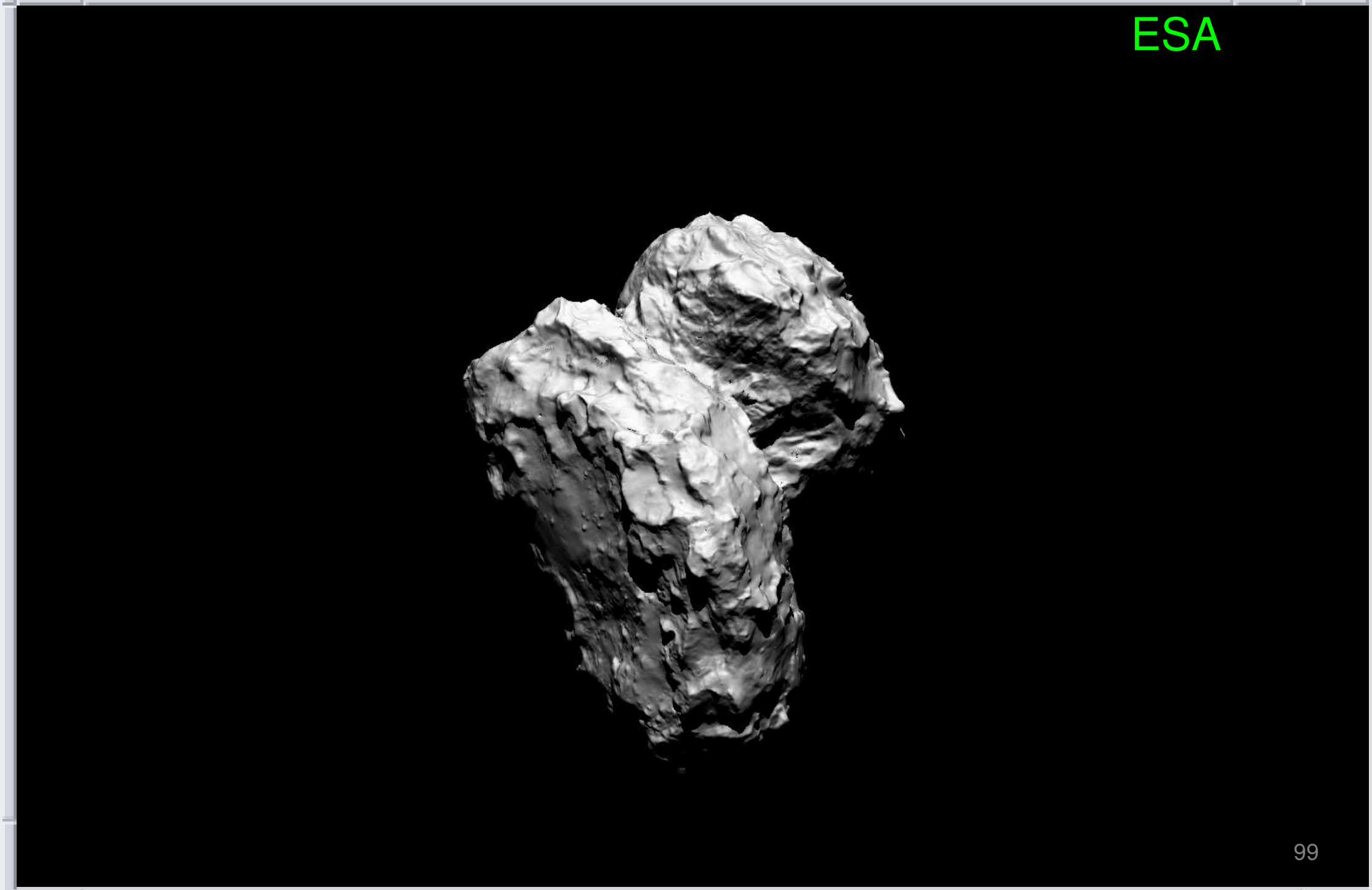

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Real world

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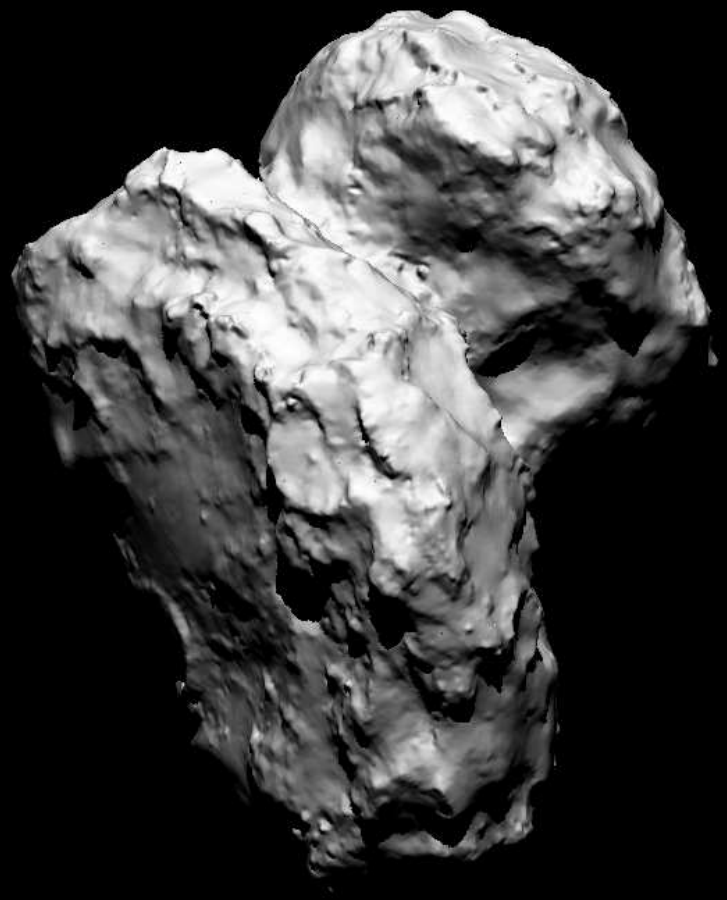

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Real world

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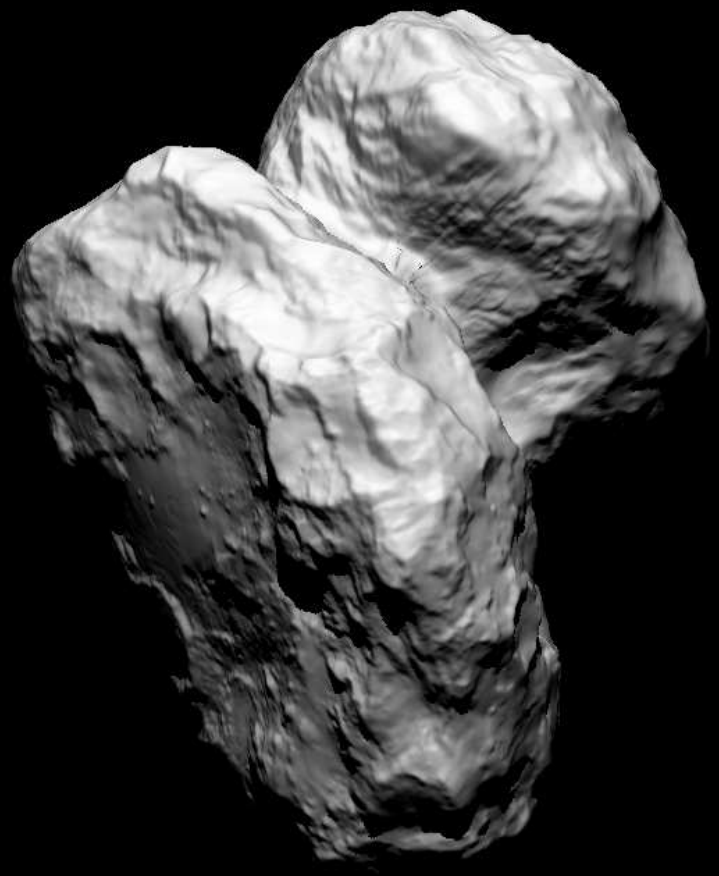

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Real world

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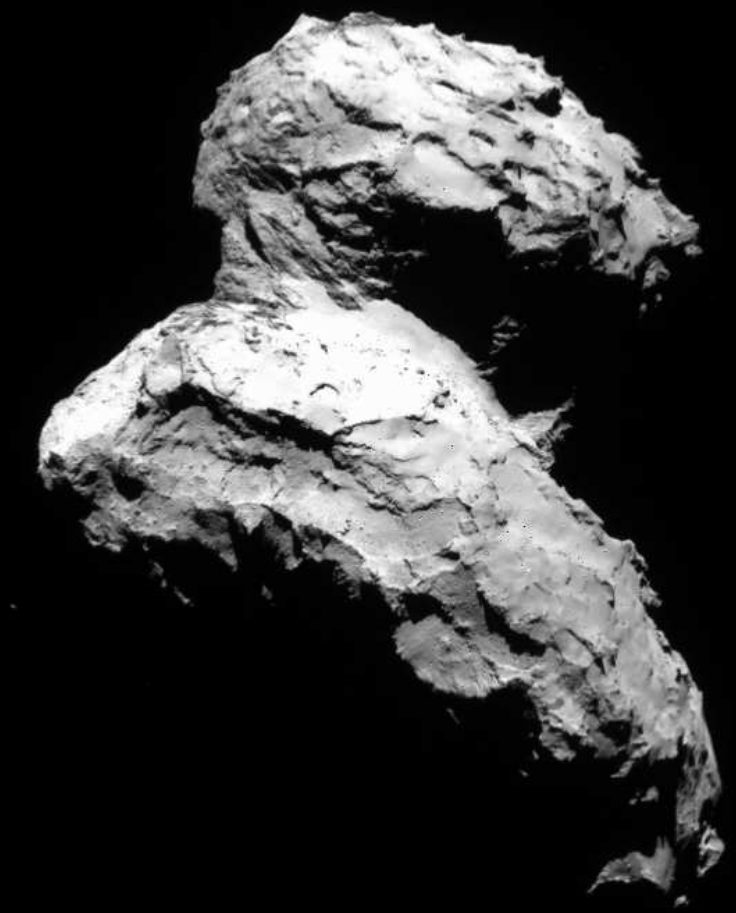
Real world



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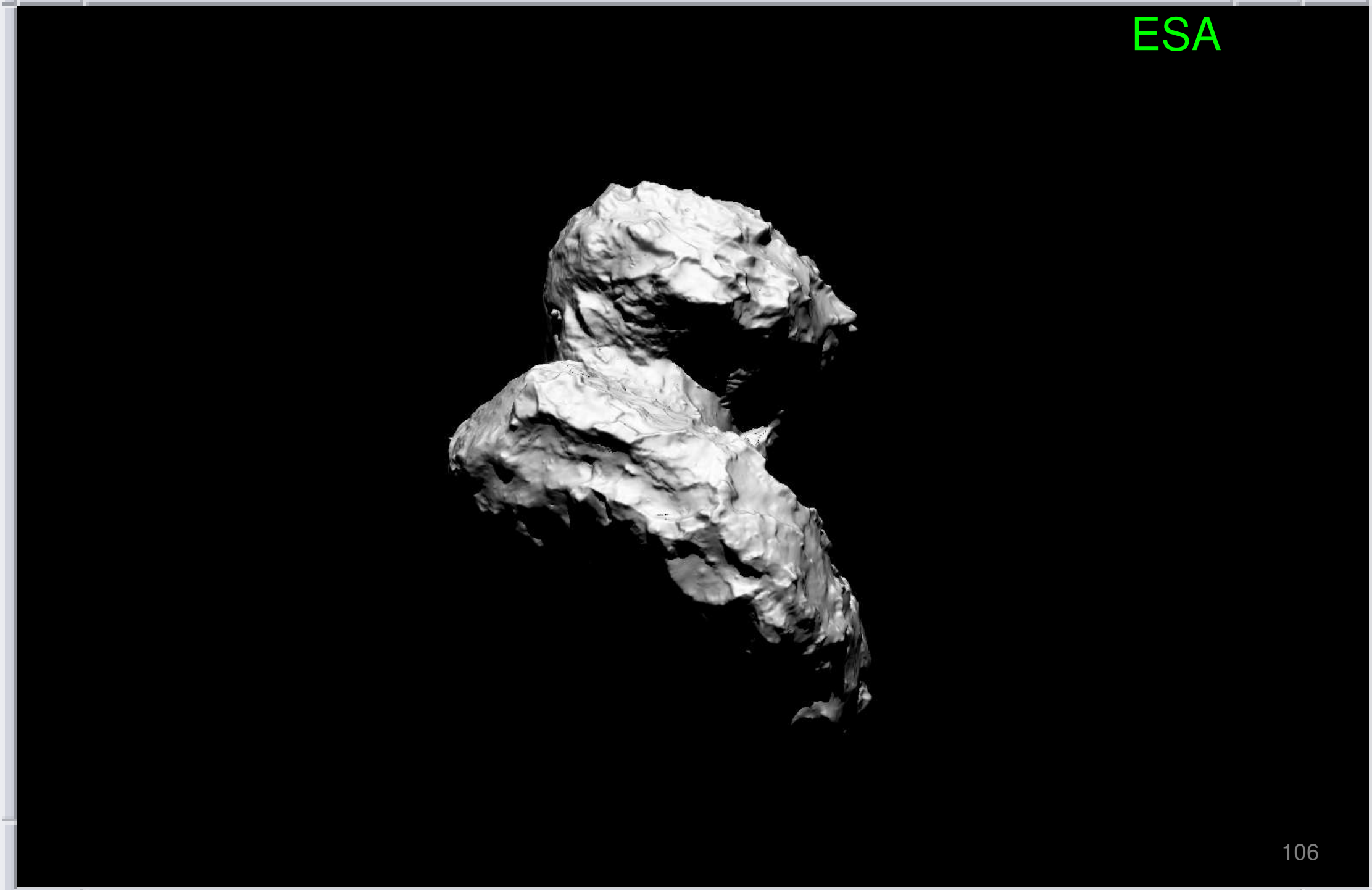

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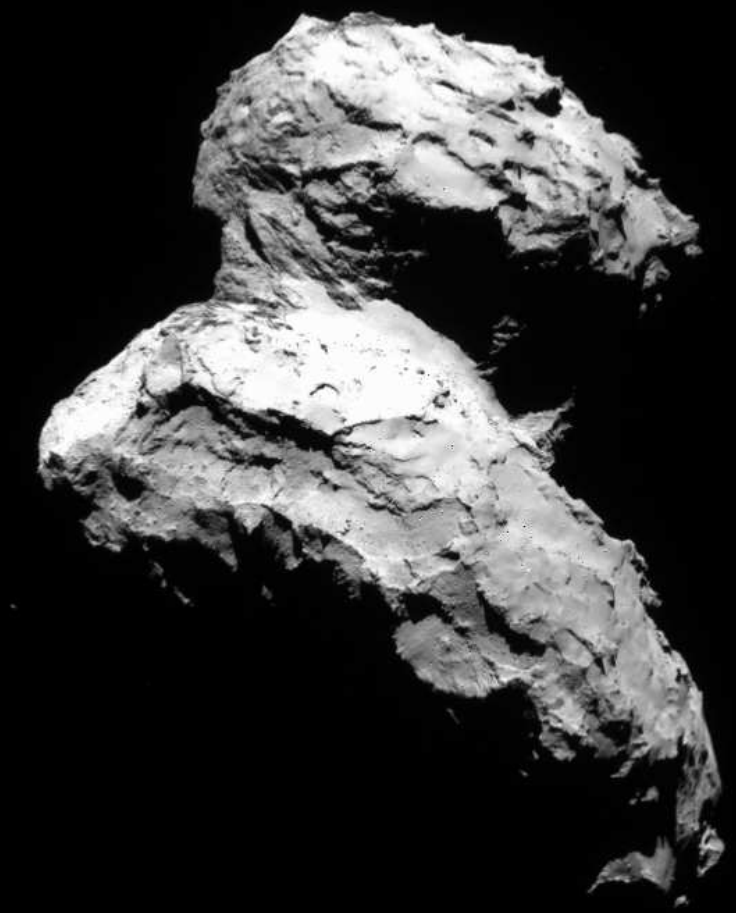

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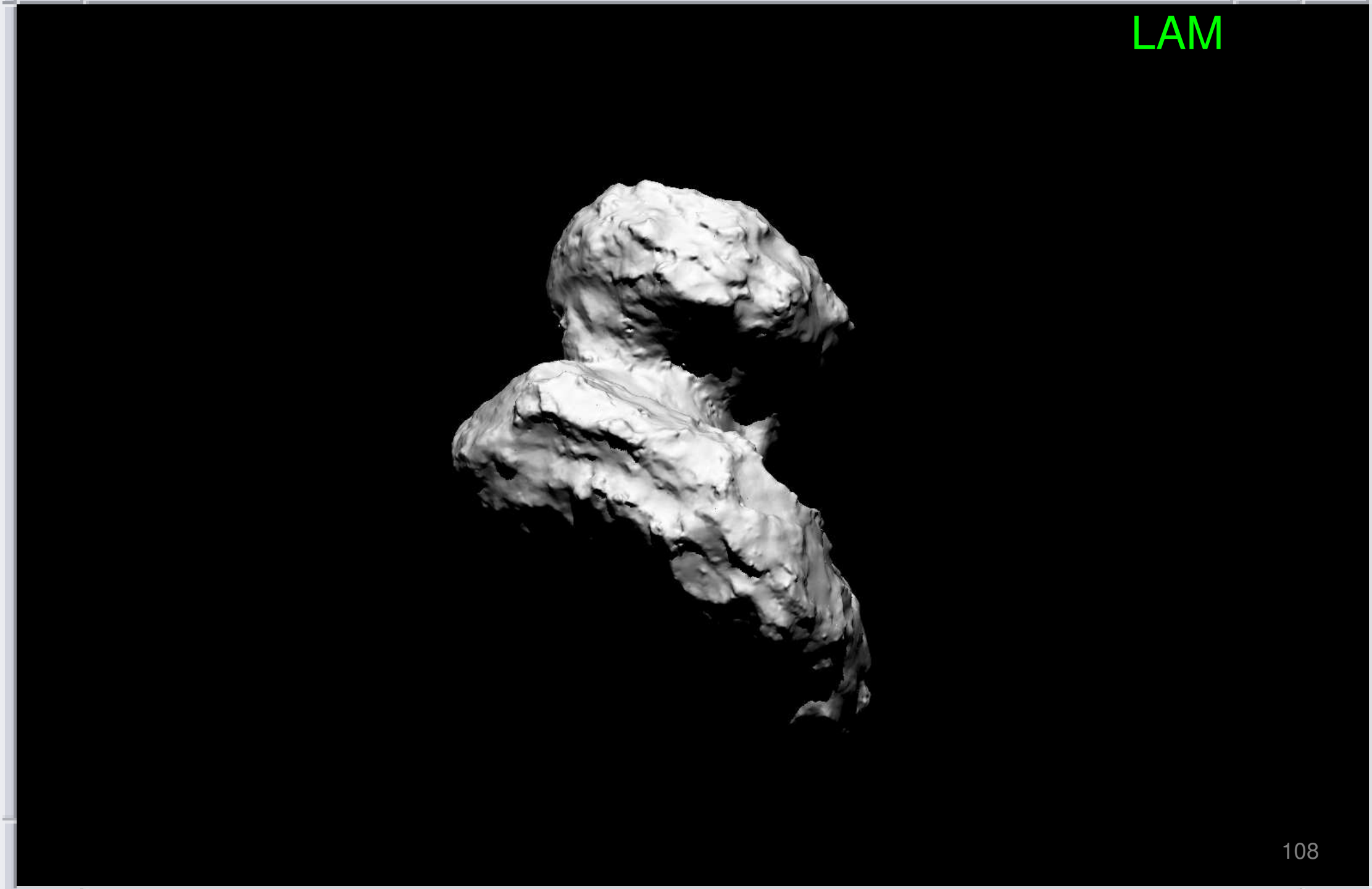

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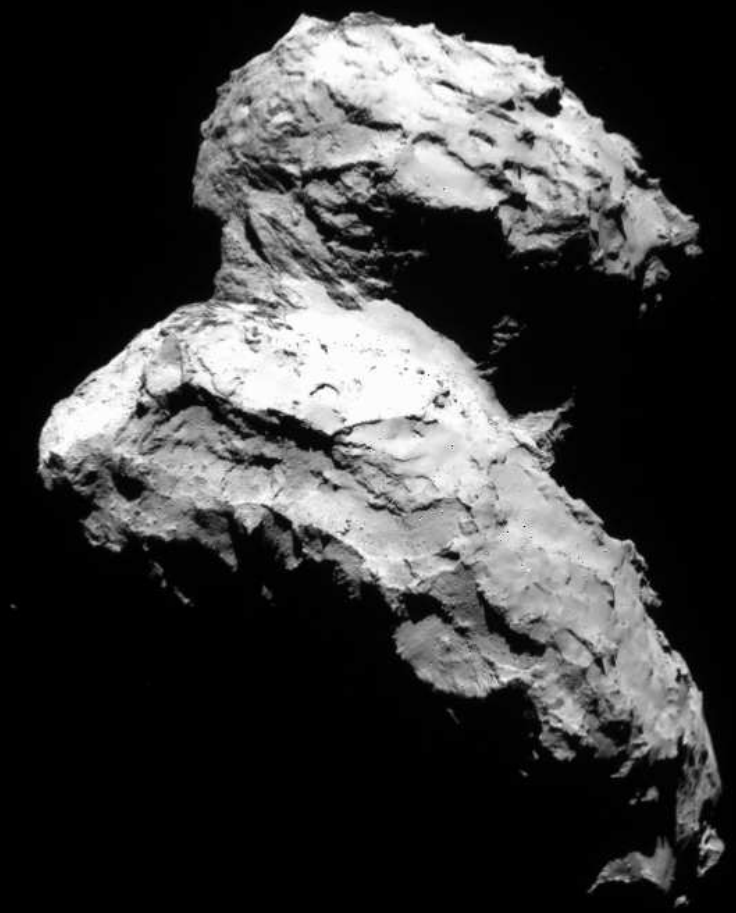

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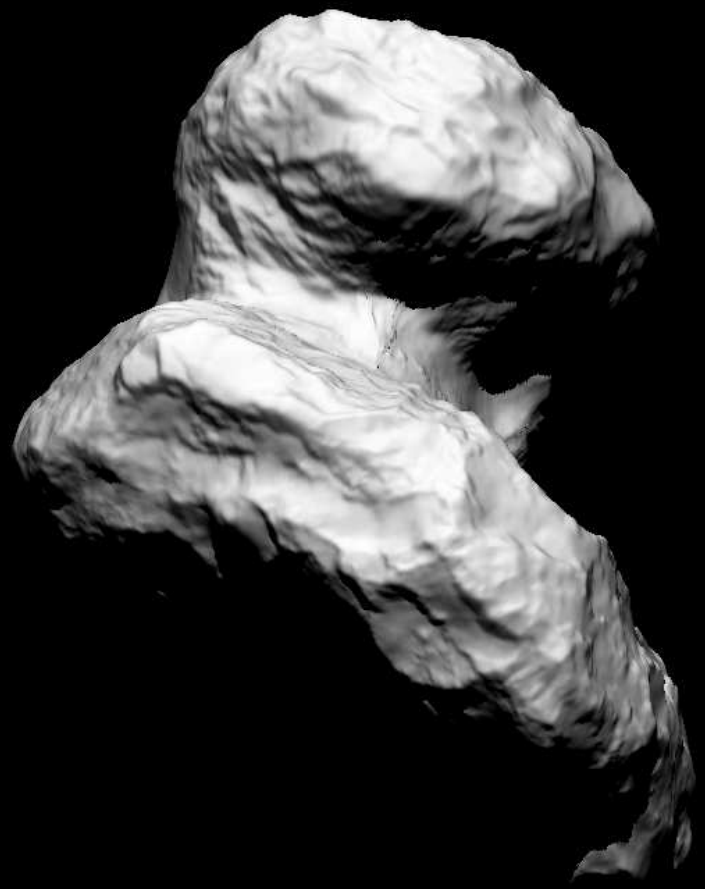

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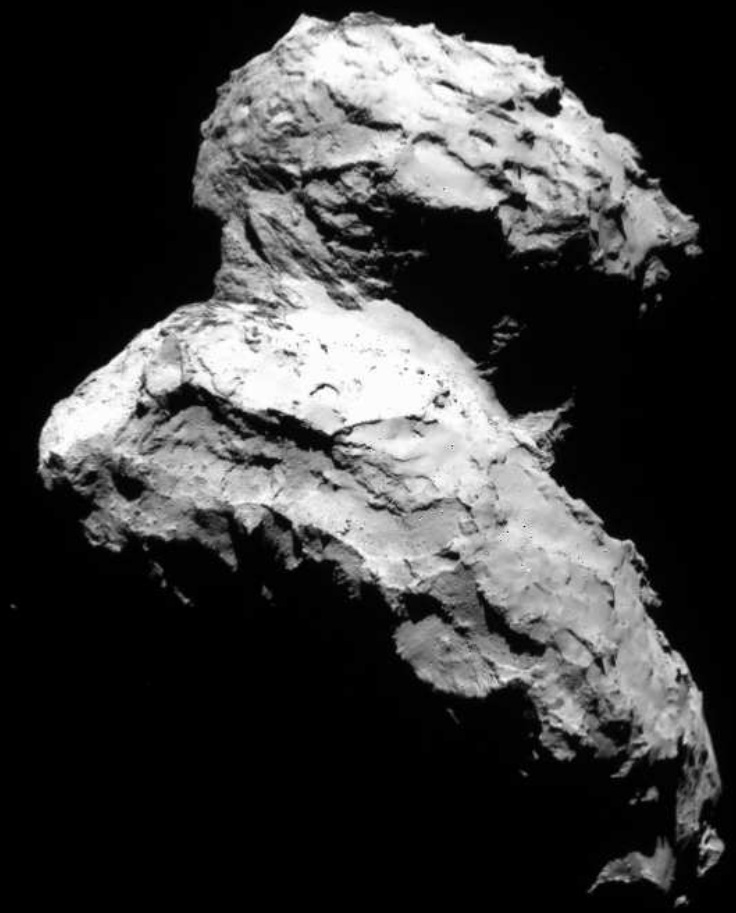

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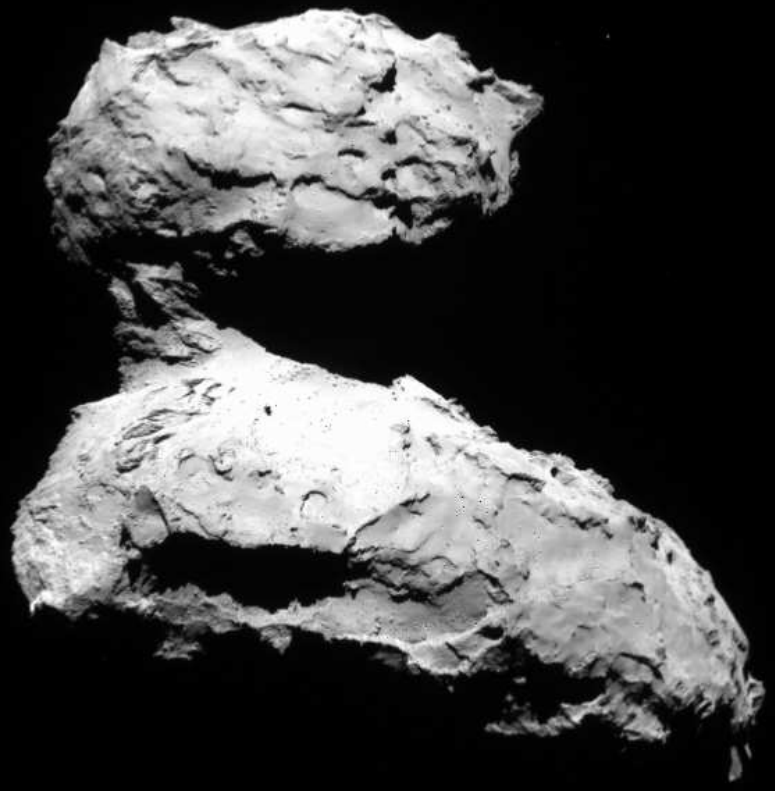

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ESA

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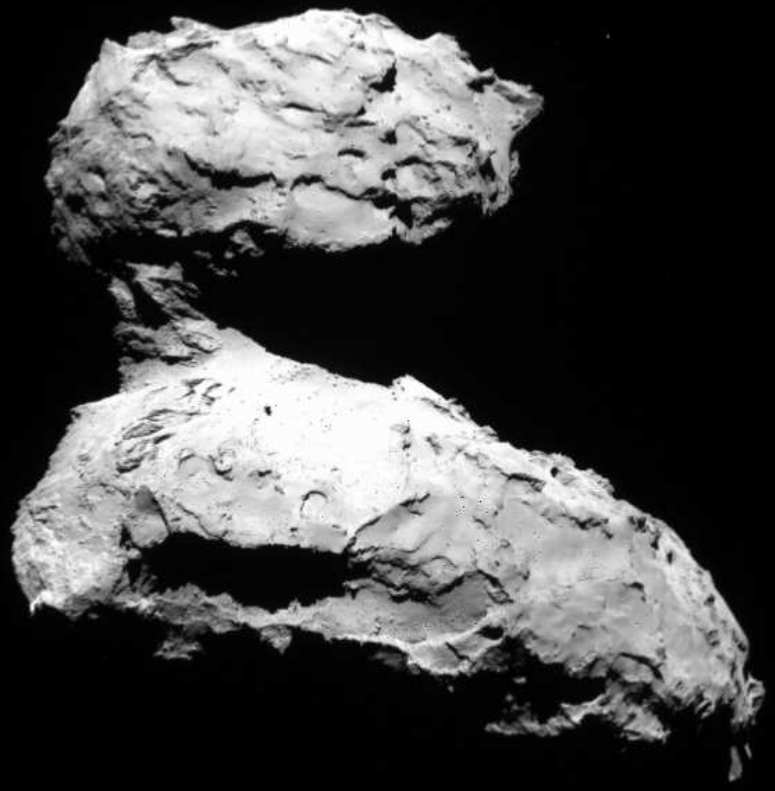
Real world



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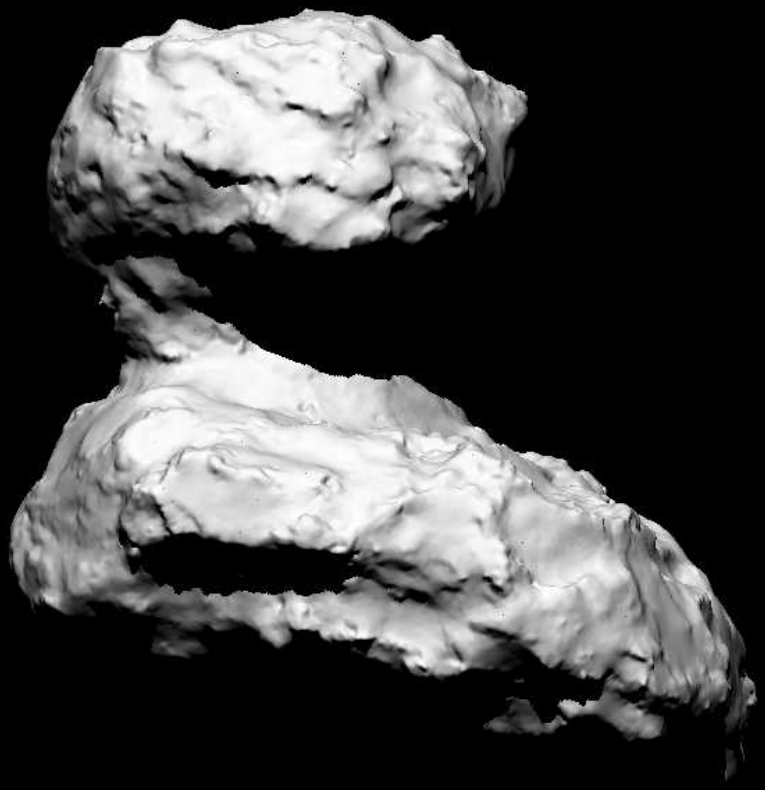

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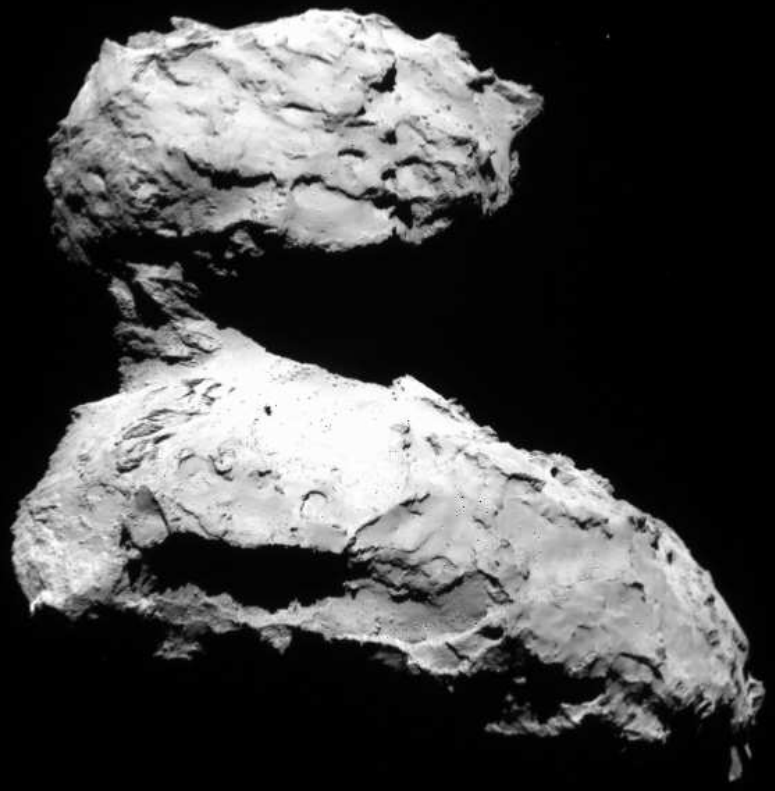

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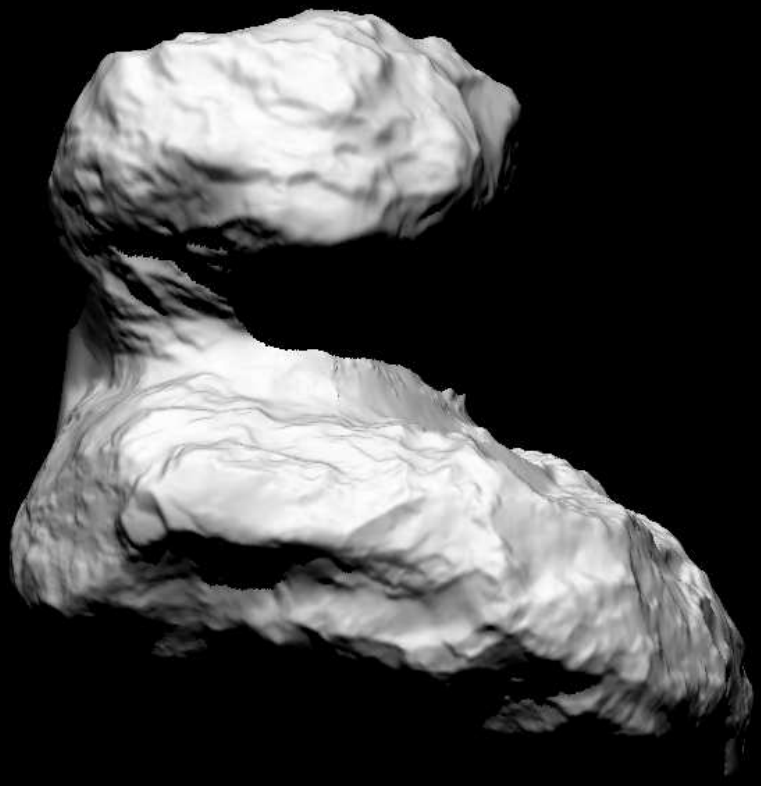

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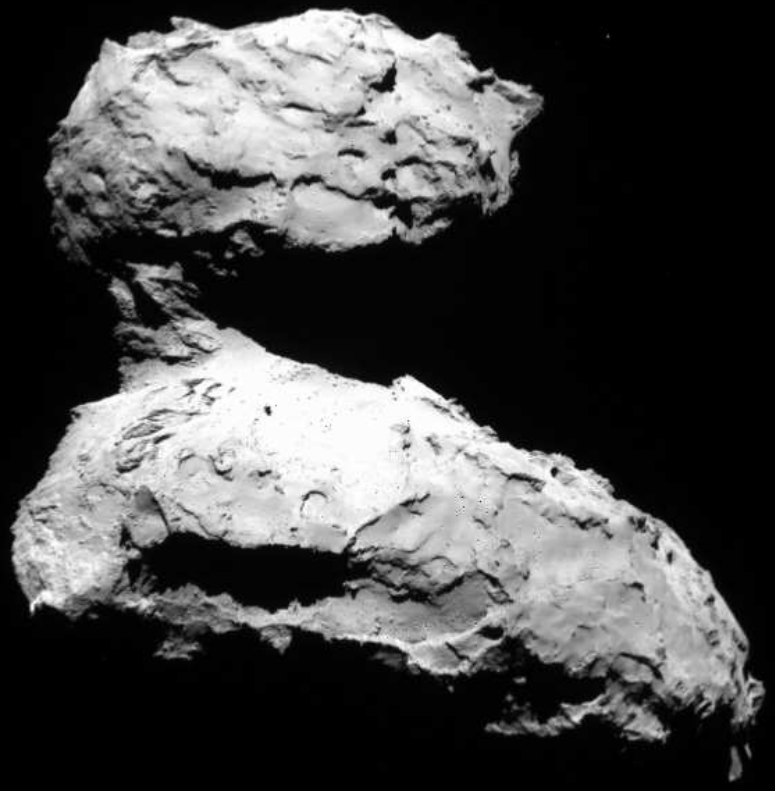

Conclusion of comparison

Within the accuracy obtainable by visual comparison, all shape models (triplate models and DSKs) are consistent with real NAVCAM images (only highest resolution version of each group checked).

Additional remarks

- The ESA shape model has higher resolution than the other two. Does it use later (smaller distance) imagery?

  $\rightarrow$ The OSIRIS team may be concerned about this.

- Used imaging periods and purpose of all shape models should be described in `aareadme.txt`.