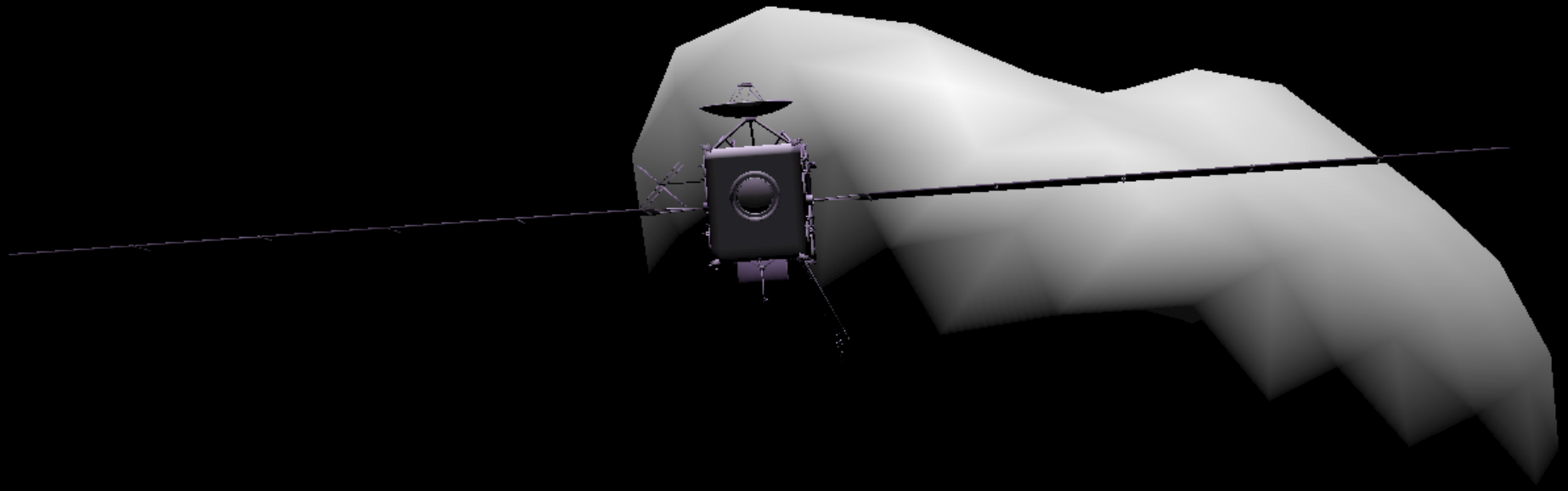
OSIRIS enhanced archive review



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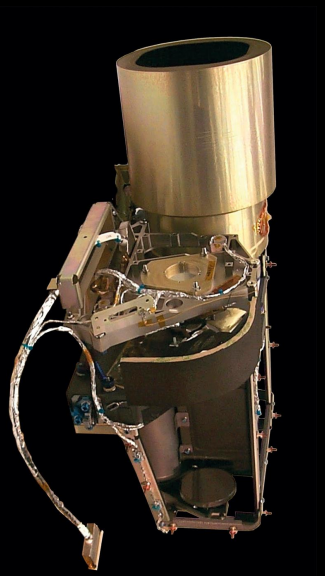
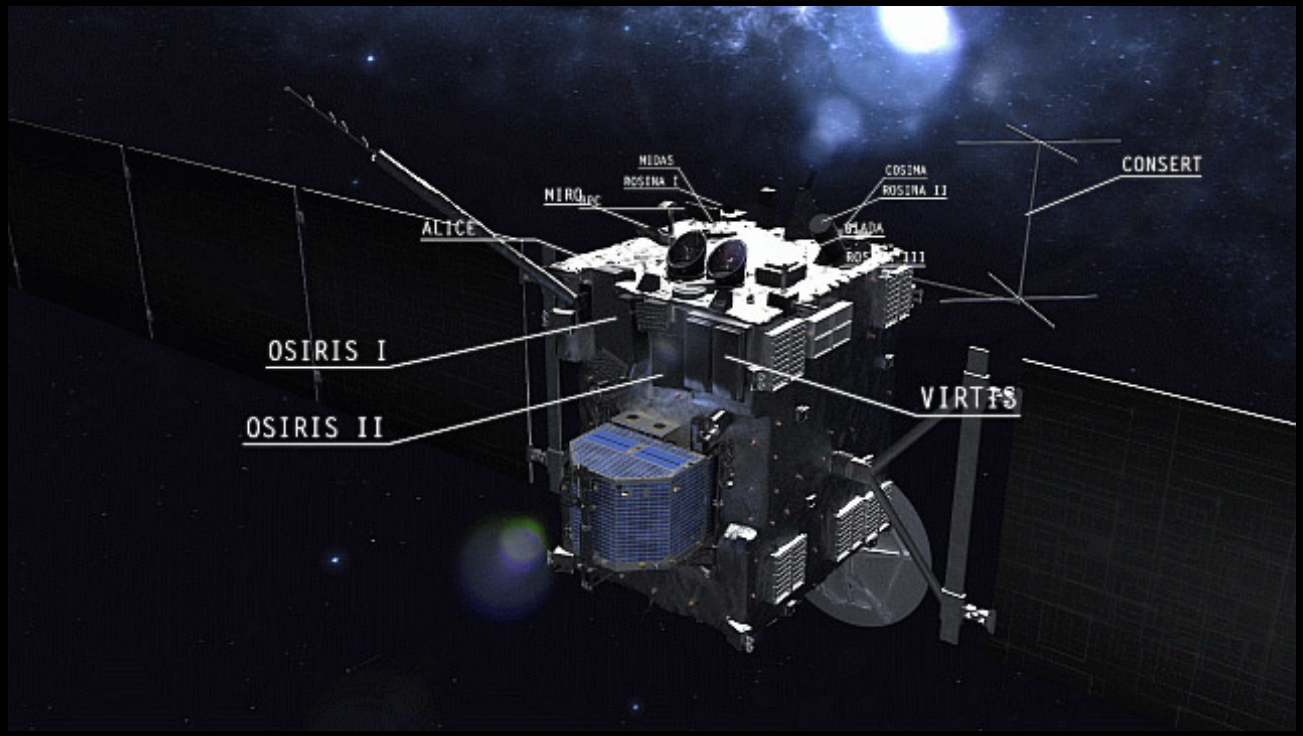
OSIRIS NAC




MIDAS
ROSINA I
COSIMA
ROSINA II
MIRO
ALICE
GIADA
CONSERT
OSIRIS I
OSIRIS II
VIRTIS

Data set

Because of time limitations, only one data set was inspected:

`RO-C-OSINAC-5-ESC1-67P-M12-GEO-V0.1`

Visual point checks

- The ‘AAREADME.TXT’ is concise and contains links to comprehensive information.
- The file ‘CALINFO.TXT’ gives a good overview of the calibration information.
- ‘OSINAC_INST.CAT’ covers all OSIRIS, not just NAC, but that doesn’t hurt.

EXTRAS/SOFTWARE/ (OSIRIS-EU-BG-001)

- Some software is provided by ‘FWPDSLIB.ZIP’.
- There is a label file ‘FWPDSLIB.LBL’.
- The label file is invalid as it does not comprise object descriptions of the uncompressed files.
- The label file is not required as we are in the ‘EXTRAS’ directory.

→ Remove the label.

- While a Zip file is PDS legal, I would for convenience recommend to provide directly the uncompressed files.

BROWSE product labels (OSIRIS-EU-BG-002)

- The labels contain the information needed to associate a browse product with its source product, i. e.:

```
^JPEG_DOCUMENT    = "N20150122T202944335ID50F61.JPG"
PRODUCT_ID        = "N20150122T202944335ID50F61.JPG"
SOURCE_PRODUCT_ID = "N20150122T202944335ID50F61.IMG"
```

- The labels contain an attempt to describe the structure of the JPEG file:

```
RECORD_TYPE  = FIXED_LENGTH
RECORD_BYTES = 1
FILE_RECORDS = 301550
FILE_NAME    = "N20150122T202944335ID50F61.JPG"
```

Only the keyword RECORD_TYPE is required here, and it could be set to UNDEFINED.

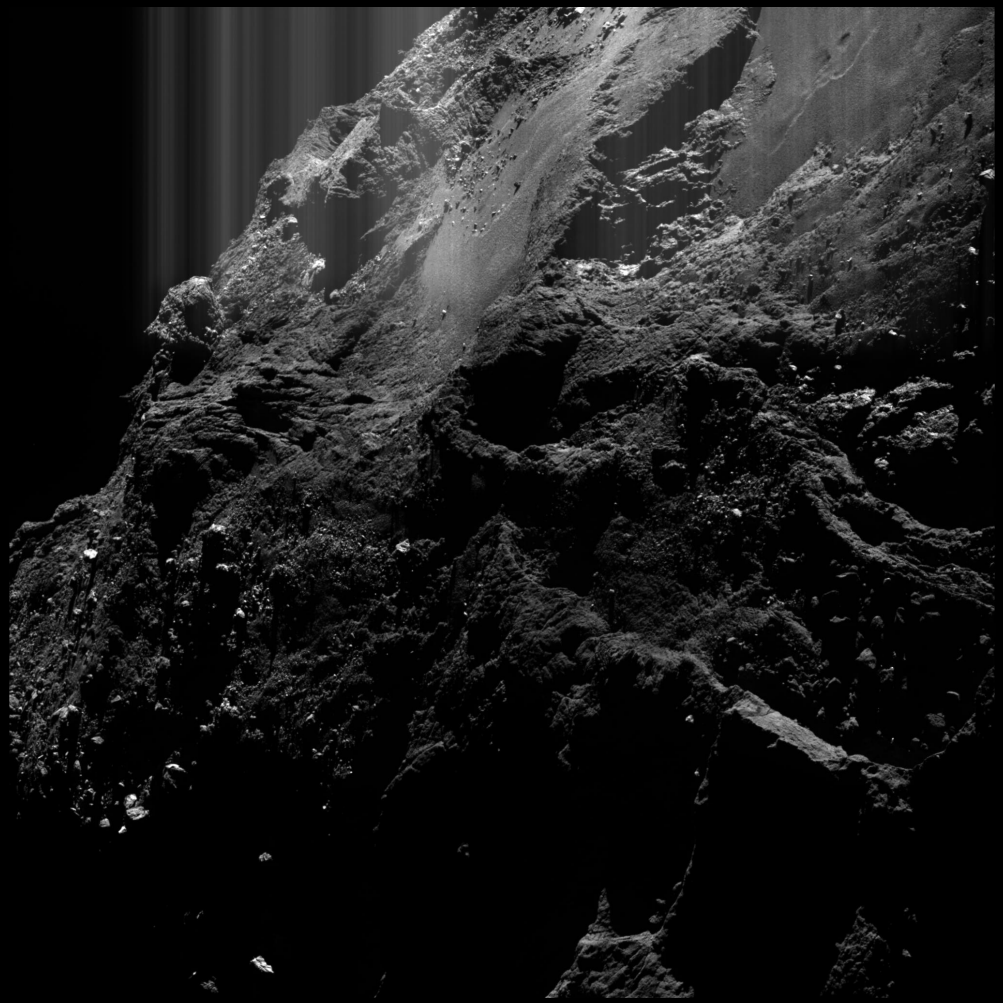
DOCUMENT/CALIB (OSIRIS-EU-BG-003)

- There are various calibration documents:

```
ADC_CORRECTION_V01.PDF
BAD_PIXELS_V01.PDF
BAD_PIXELS_V02.PDF
BIAS_V01.PDF
BIAS_V02.PDF
EXPOSURETIME_COR_V01.PDF
EXPOSURETIME_COR_V02.PDF
EXPOSURETIME_COR_V03.PDF
FILTER_CURVES_V01.PDF
FLATFIELDING_V01.PDF
GEOMETRIC_DIST_COR_V01.PDF
GEOMETRIC_DIST_COR_V02.PDF
GEO_PRODUCTS_V01.PDF
LINEARITY_SATUR_V01.PDF
OSIRIS_CAL_PIPELINE_V01.PDF
OSIRIS_CAL_PIPELINE_V02.PDF
OSIRIS_CAL_PIPELINE_V03.PDF
OSIRIS_CAL_PIPELINE_V04.PDF
OSIRIS_CAL_PIPELINE_V05.PDF
RADIOMETRIC_CALIB_V01.PDF
RADIOMETRIC_CALIB_V02.PDF
SOLAR_STRAYLIGHT_V01.PDF
TUBIANA_ET_AL_2015_V01.PDF
```

- This could be uncluttered a bit by removing obsolete versions.

The shutter problem (OSIRIS-EU-BG-004)



- In particular, the shutter problem strikingly visible in many images should be explained at a prominent location.

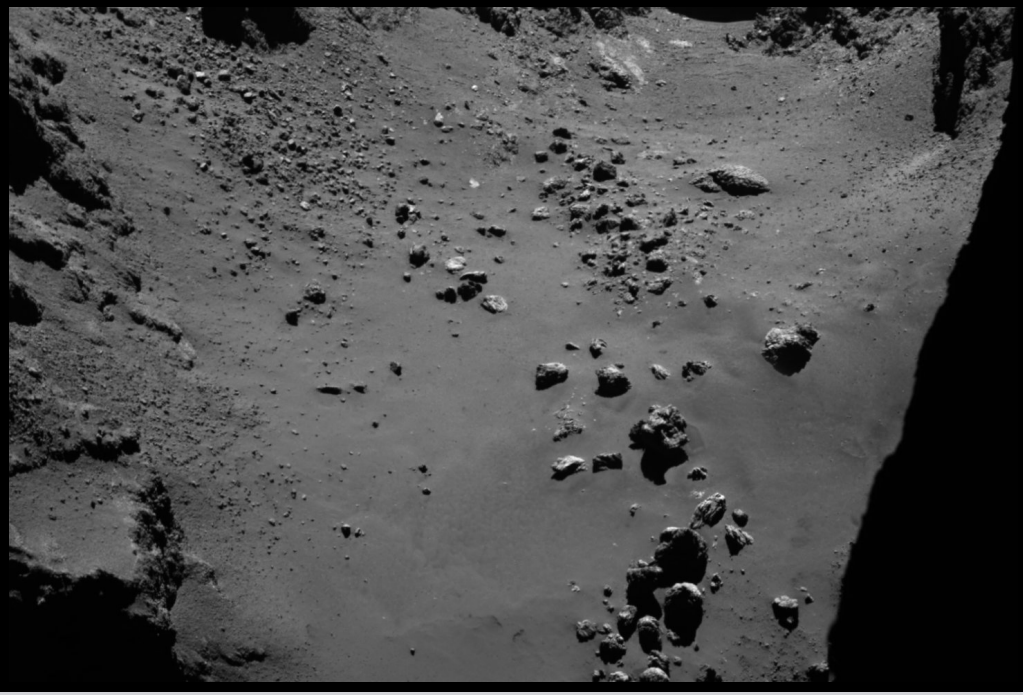
Example image inspected

N20150122T232954841ID50F22

Browse product

Real product image layer

As promised in ‘`AAREADME.TXT`’, the image can be displayed with NASAView:



File of many layers

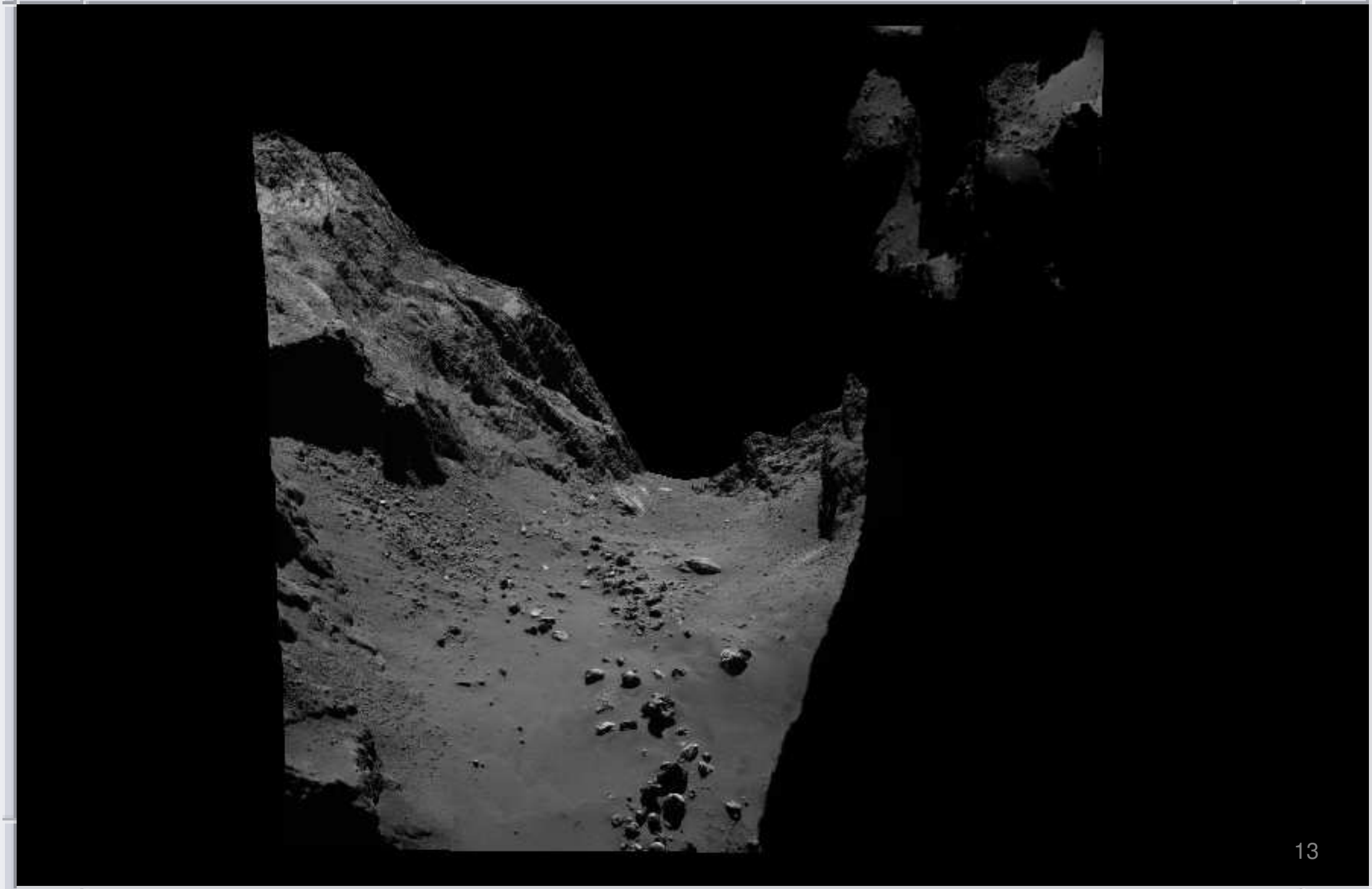
```
RECORD_BYTES                    = 512

^IMAGE                          = 64
^DISTANCE_IMAGE                 = 32832
^EMISSION_ANGLE_IMAGE           = 65600
^INCIDENCE_ANGLE_IMAGE          = 98368
^PHASE_ANGLE_IMAGE              = 131136
^FACET_INDEX_IMAGE              = 163904
^COORDINATE_X_IMAGE             = 196672
^COORDINATE_Y_IMAGE             = 229440
^COORDINATE_Z_IMAGE             = 262208
^HISTORY                        = 57

    LINE_SAMPLES                = 2048
    LINES                       = 2048

    SAMPLE_TYPE                 = PC_REAL
    SAMPLE_BITS                 = 32
```

Image with 3D pixel positions



Shape rendered

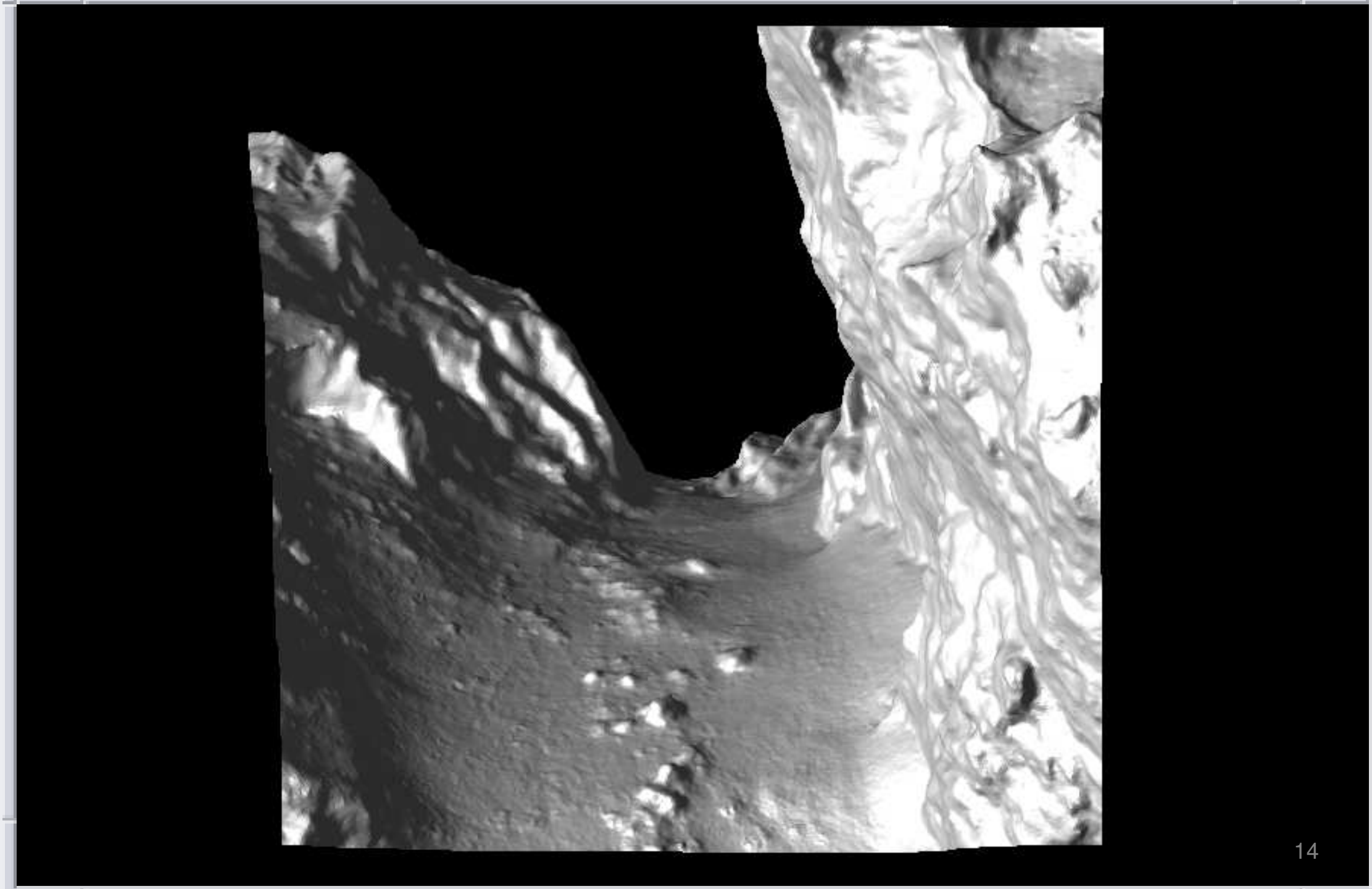
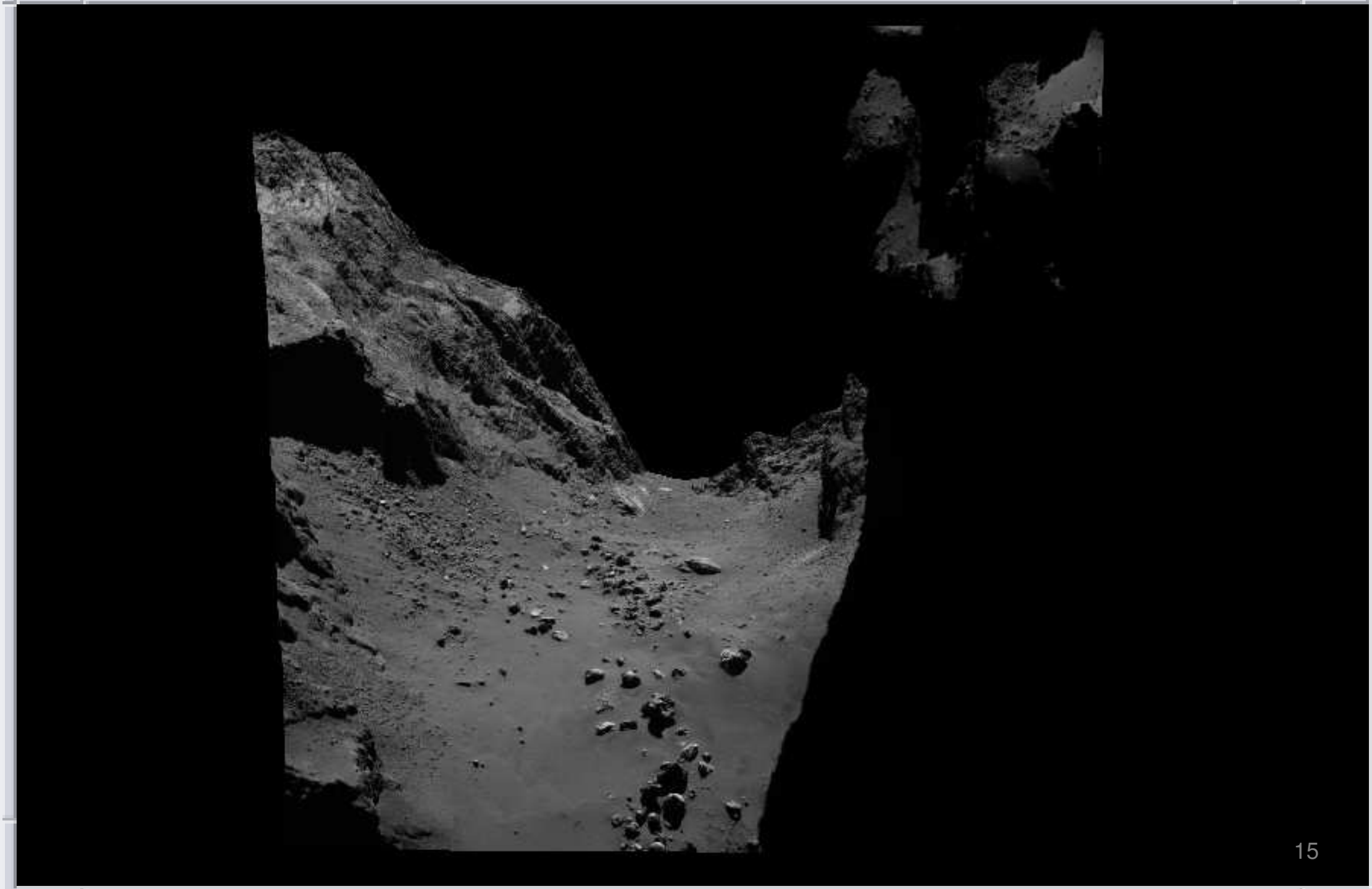
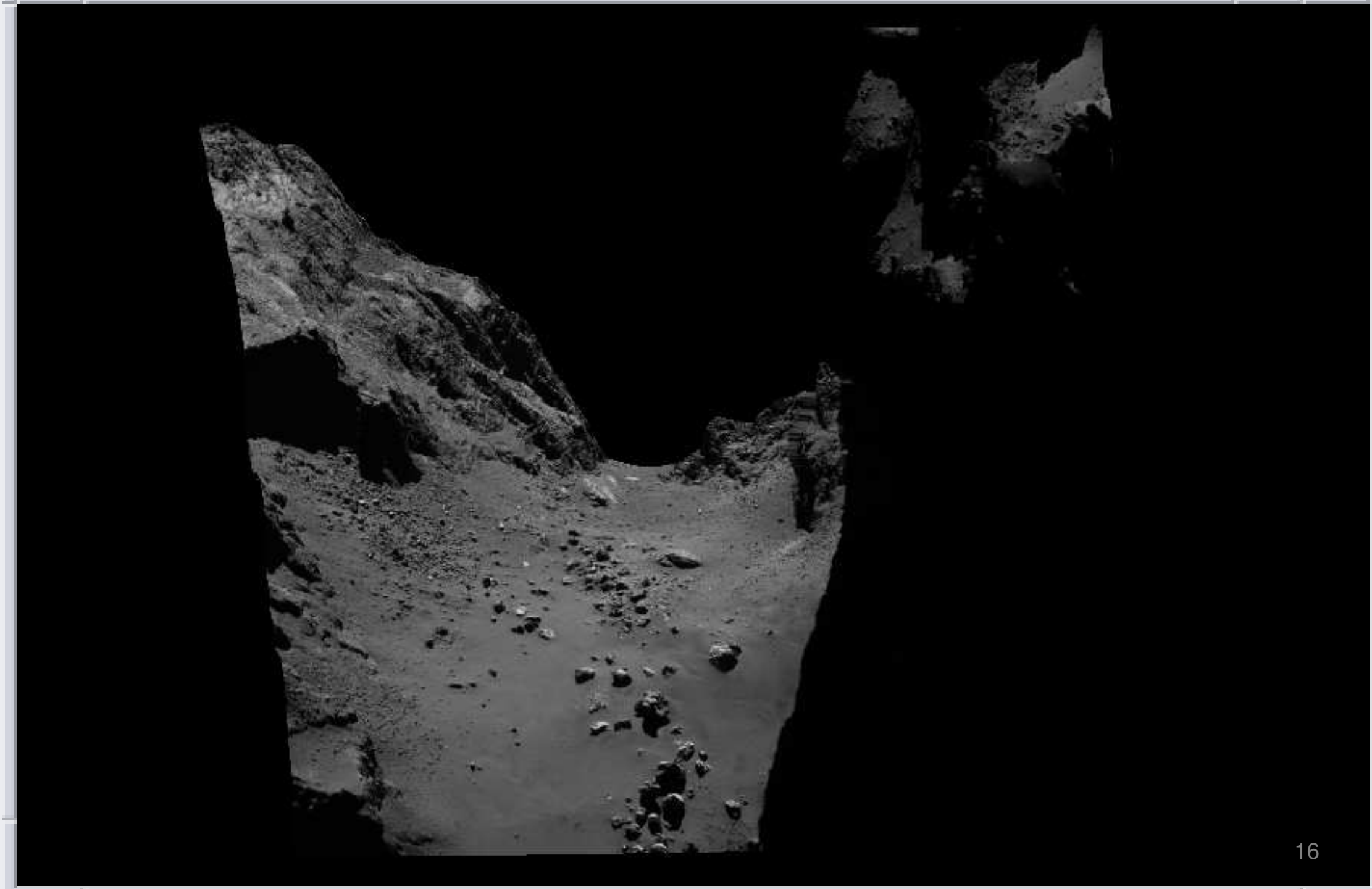


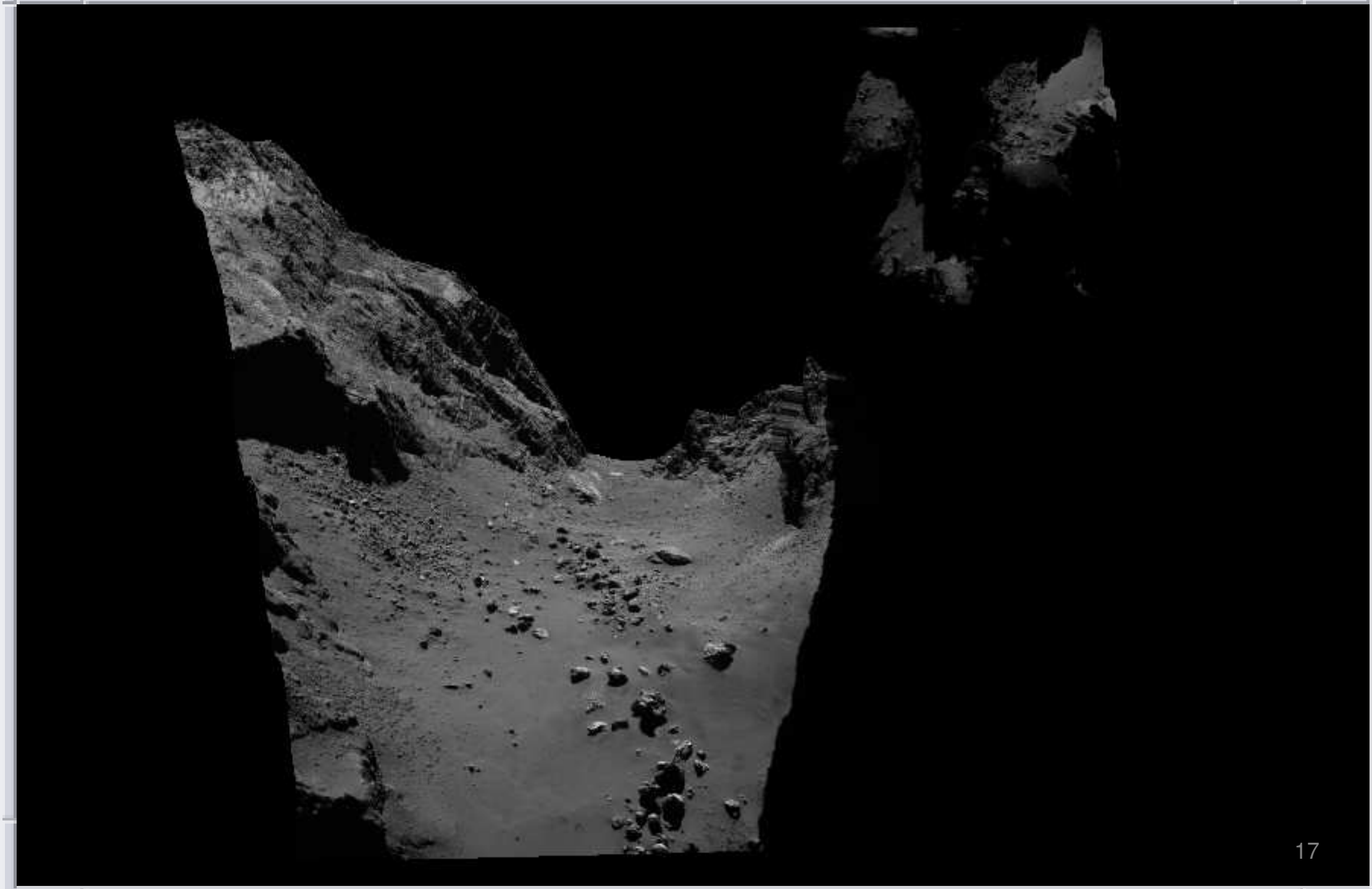
Image with 3D pixel positions



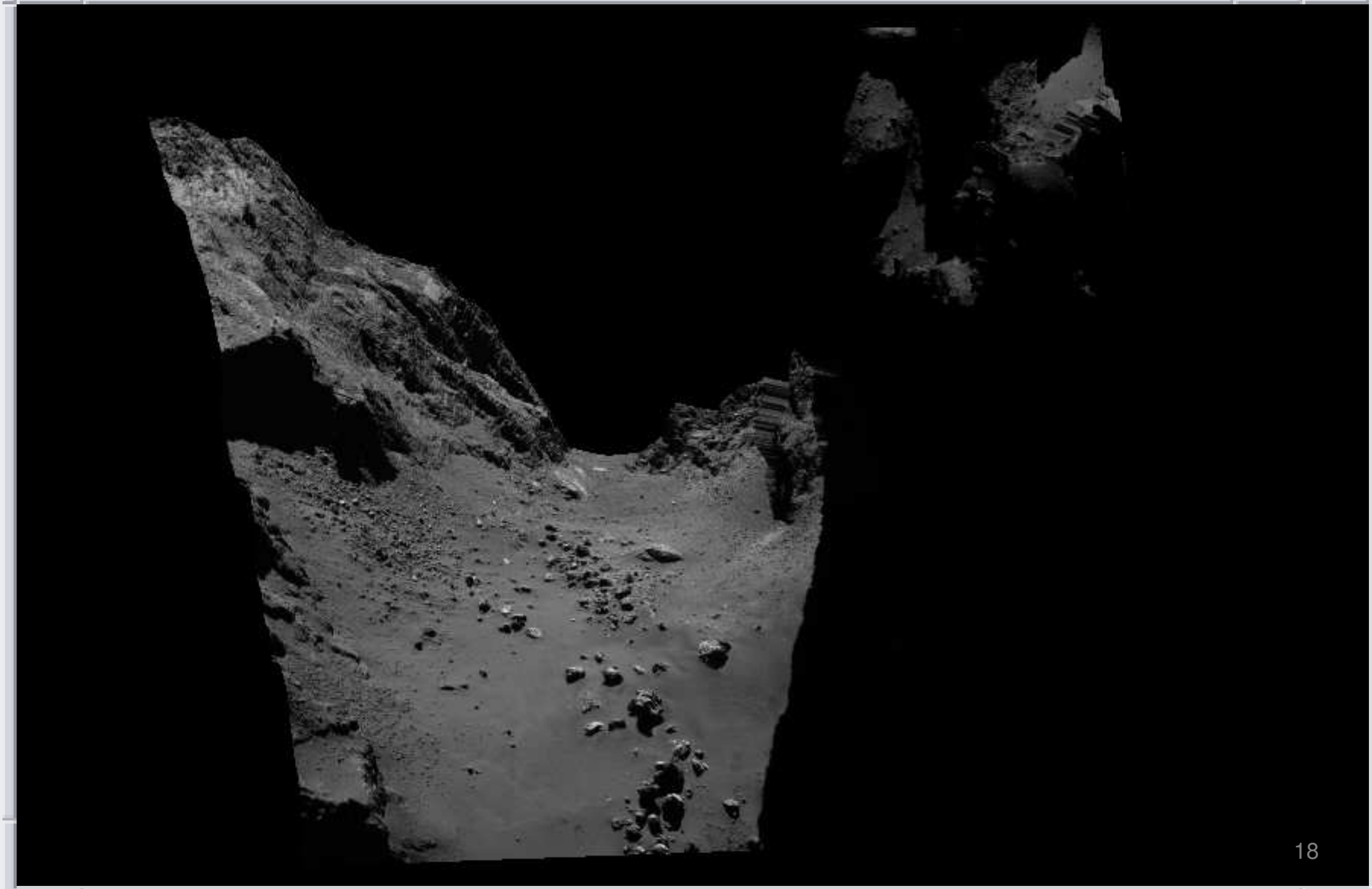
Rotating . . .



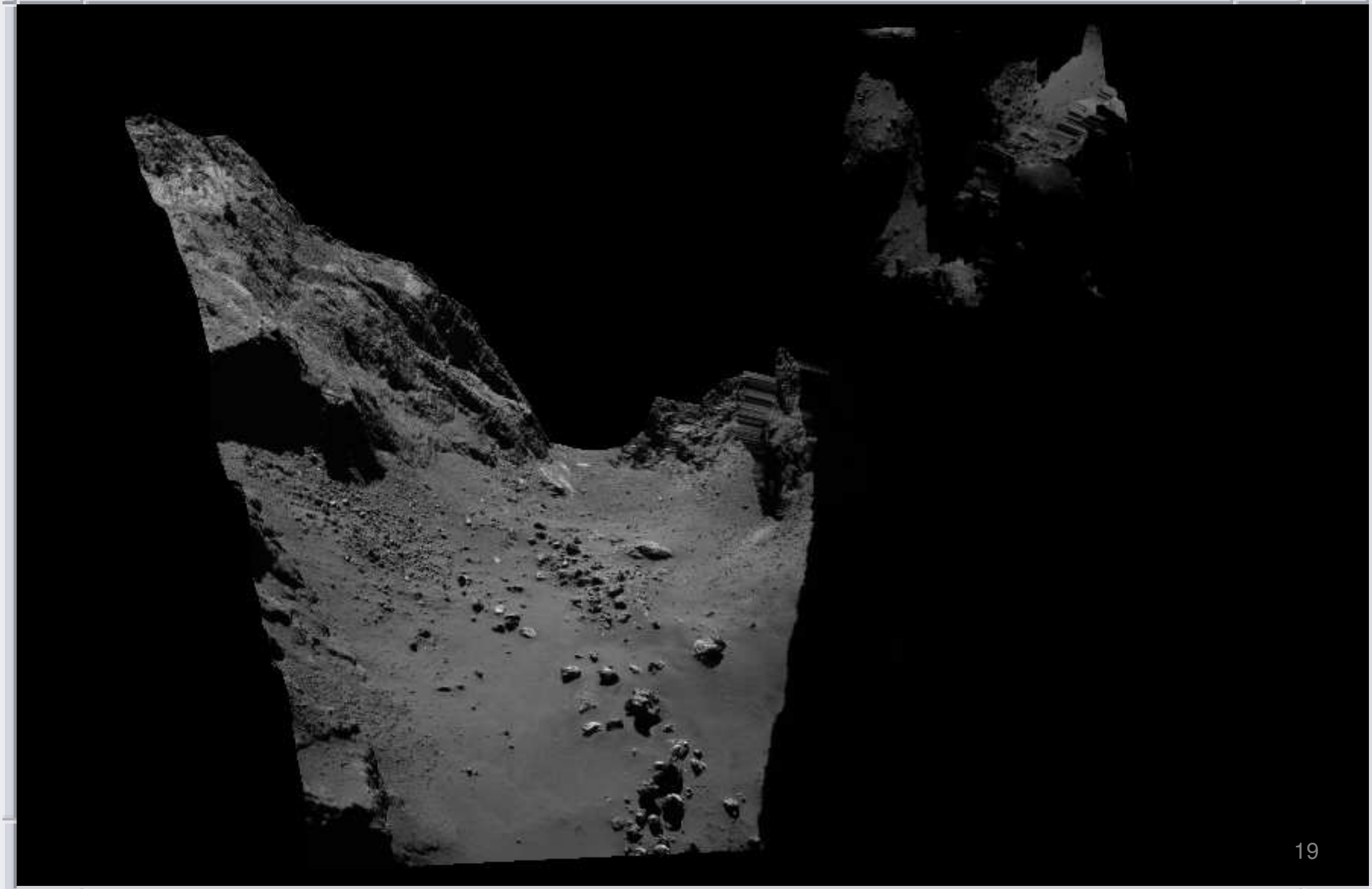
Rotating . . .



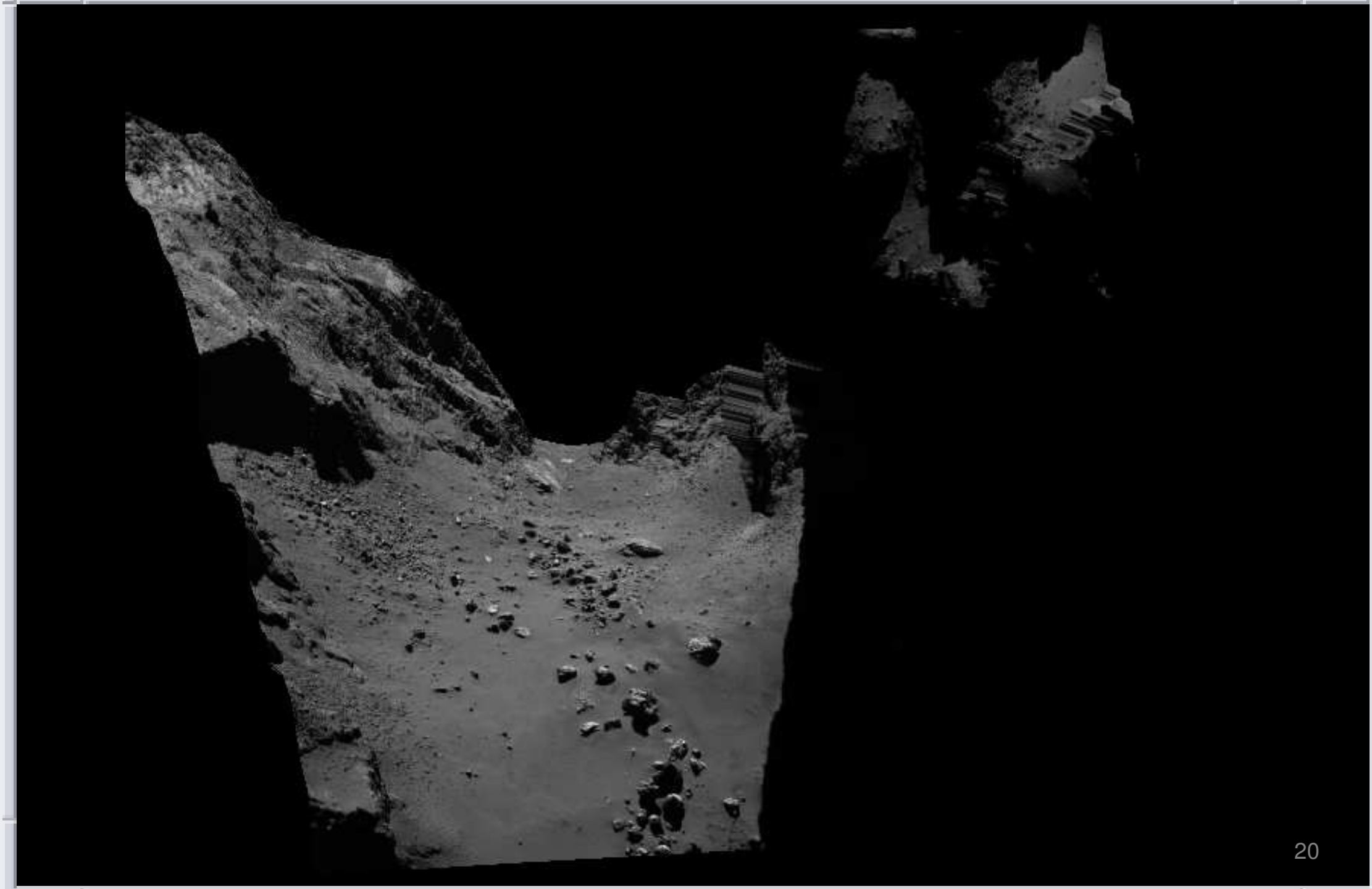
Rotating . . .



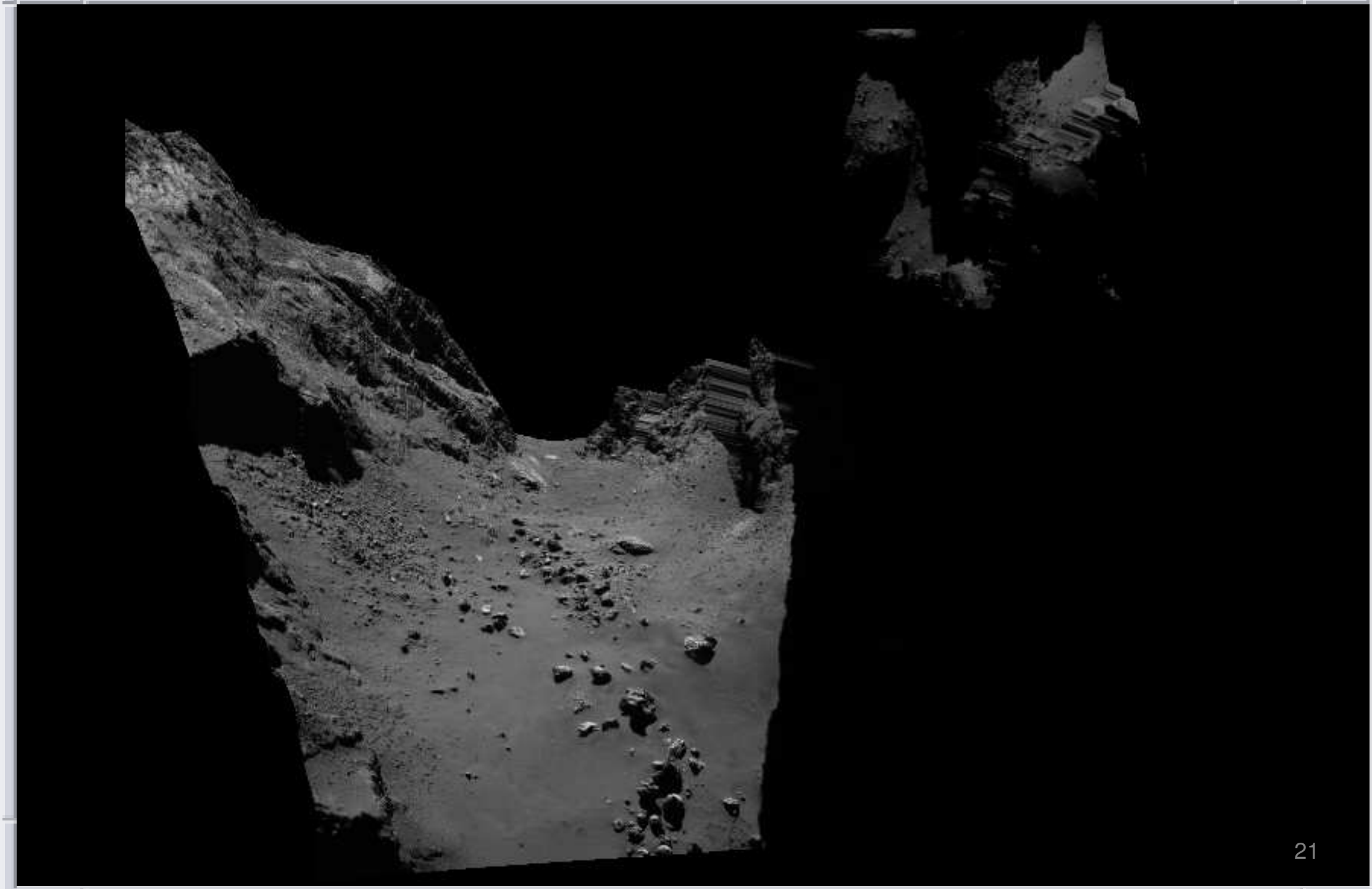
Rotating . . .



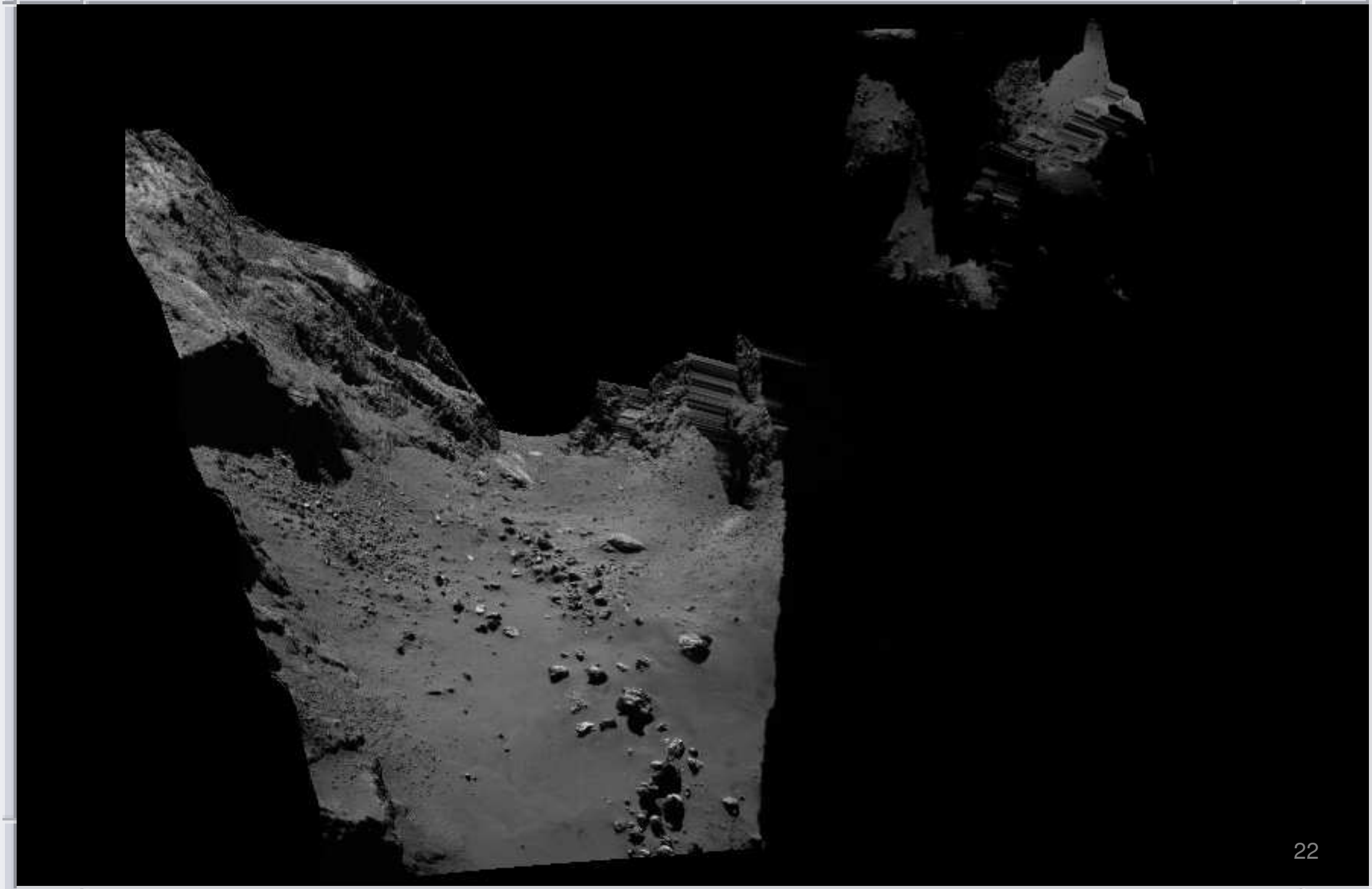
Rotating . . .



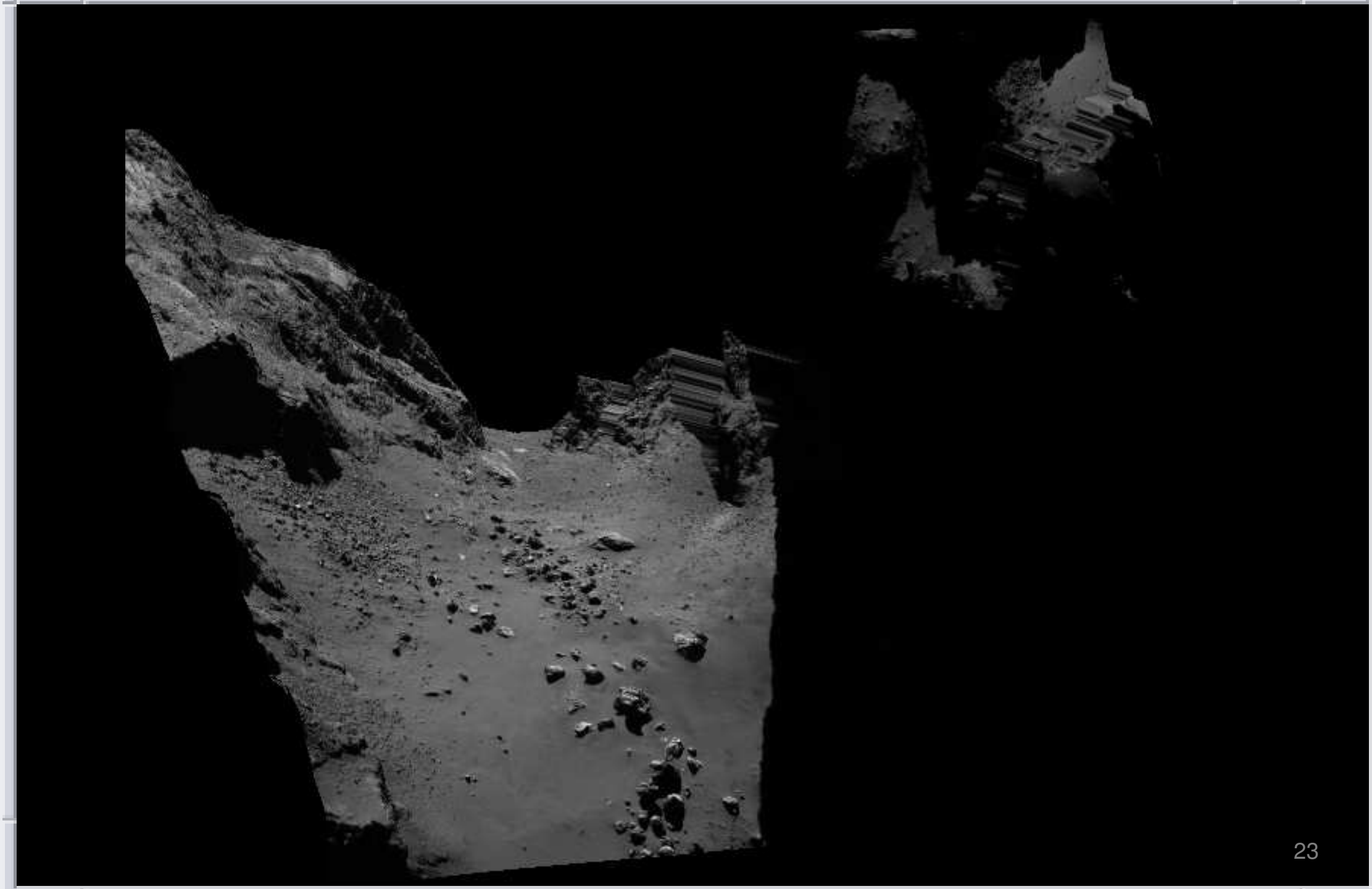
Rotating . . .



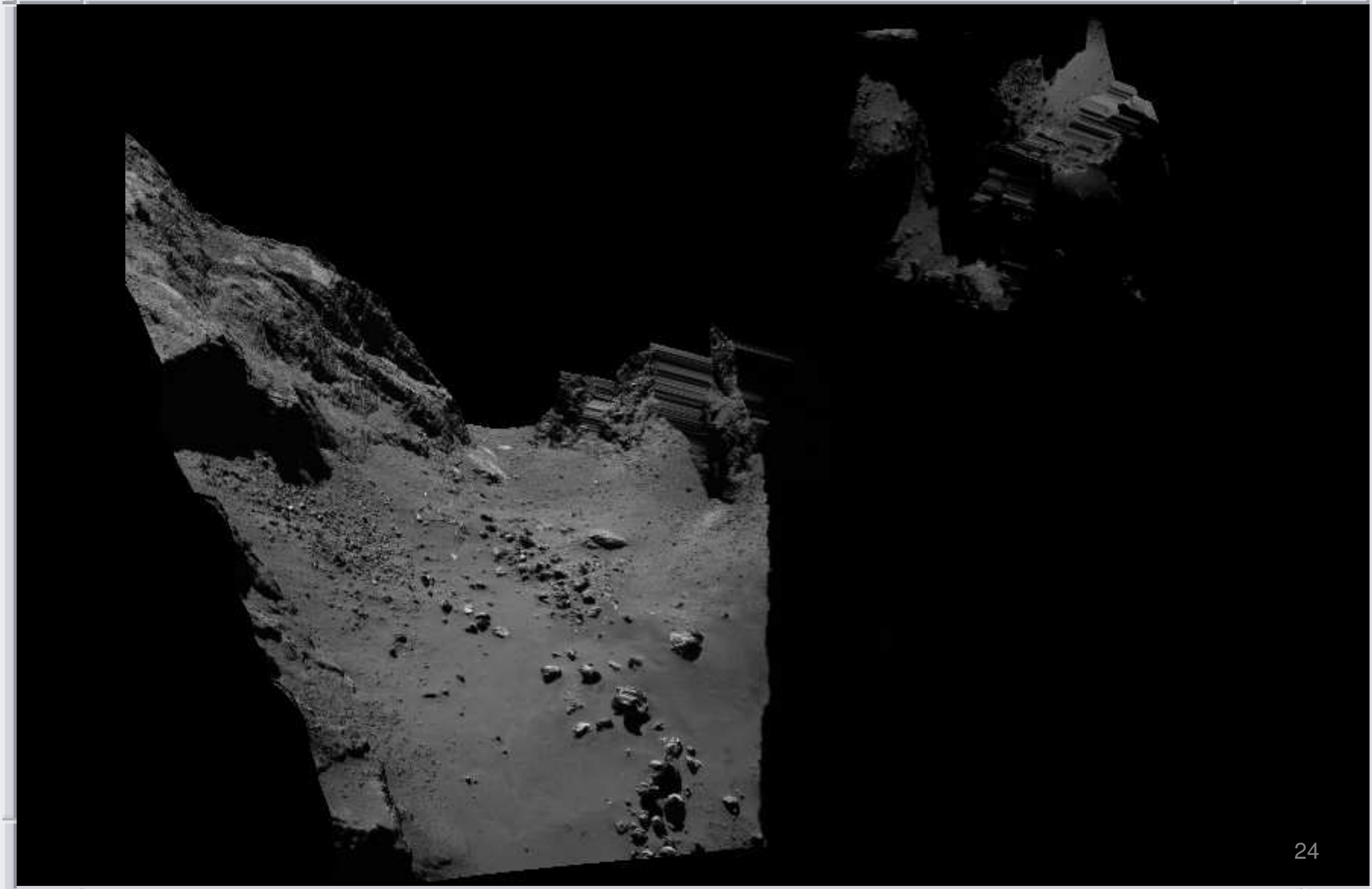
Rotating . . .



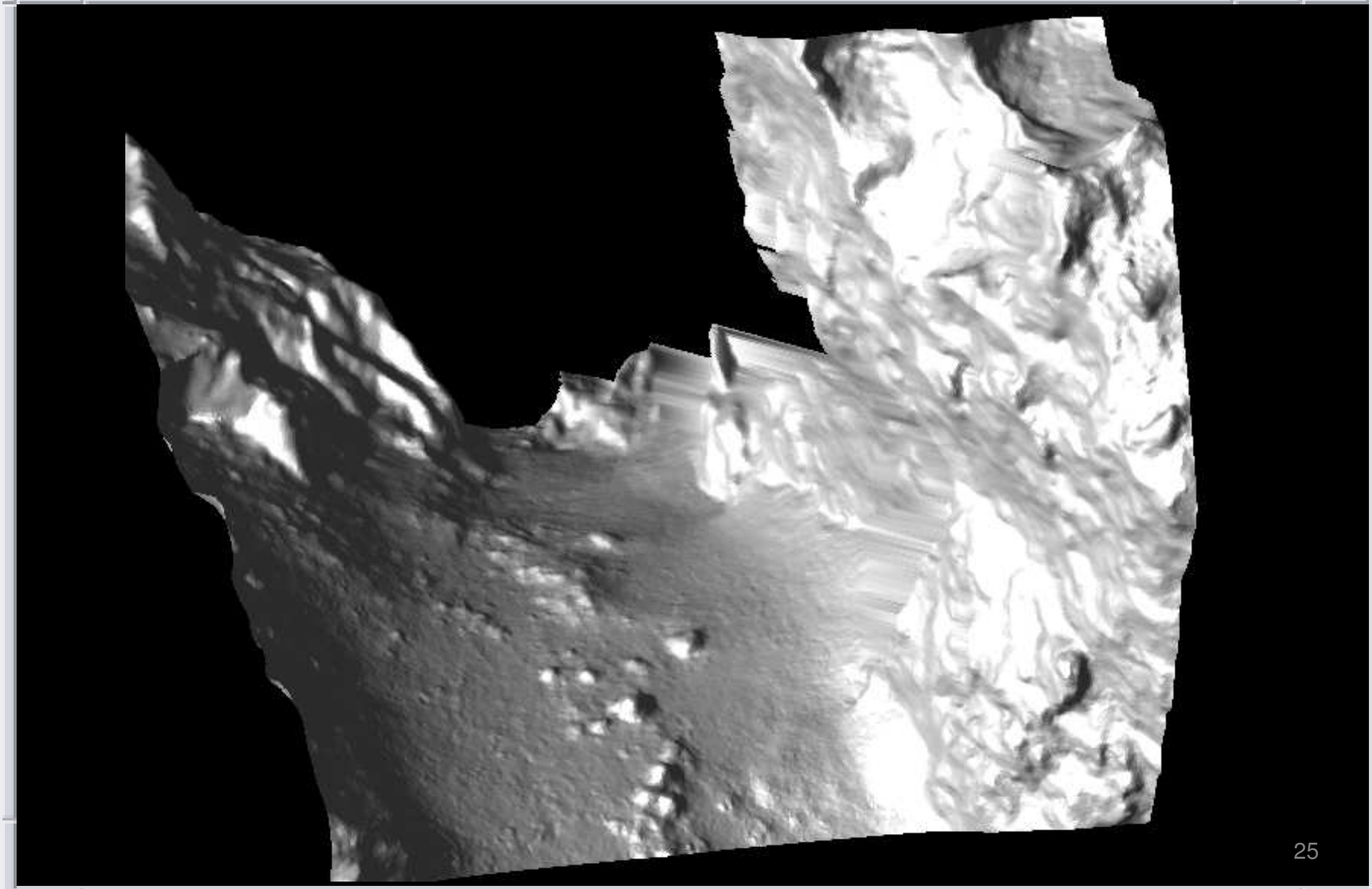
Rotating . . .



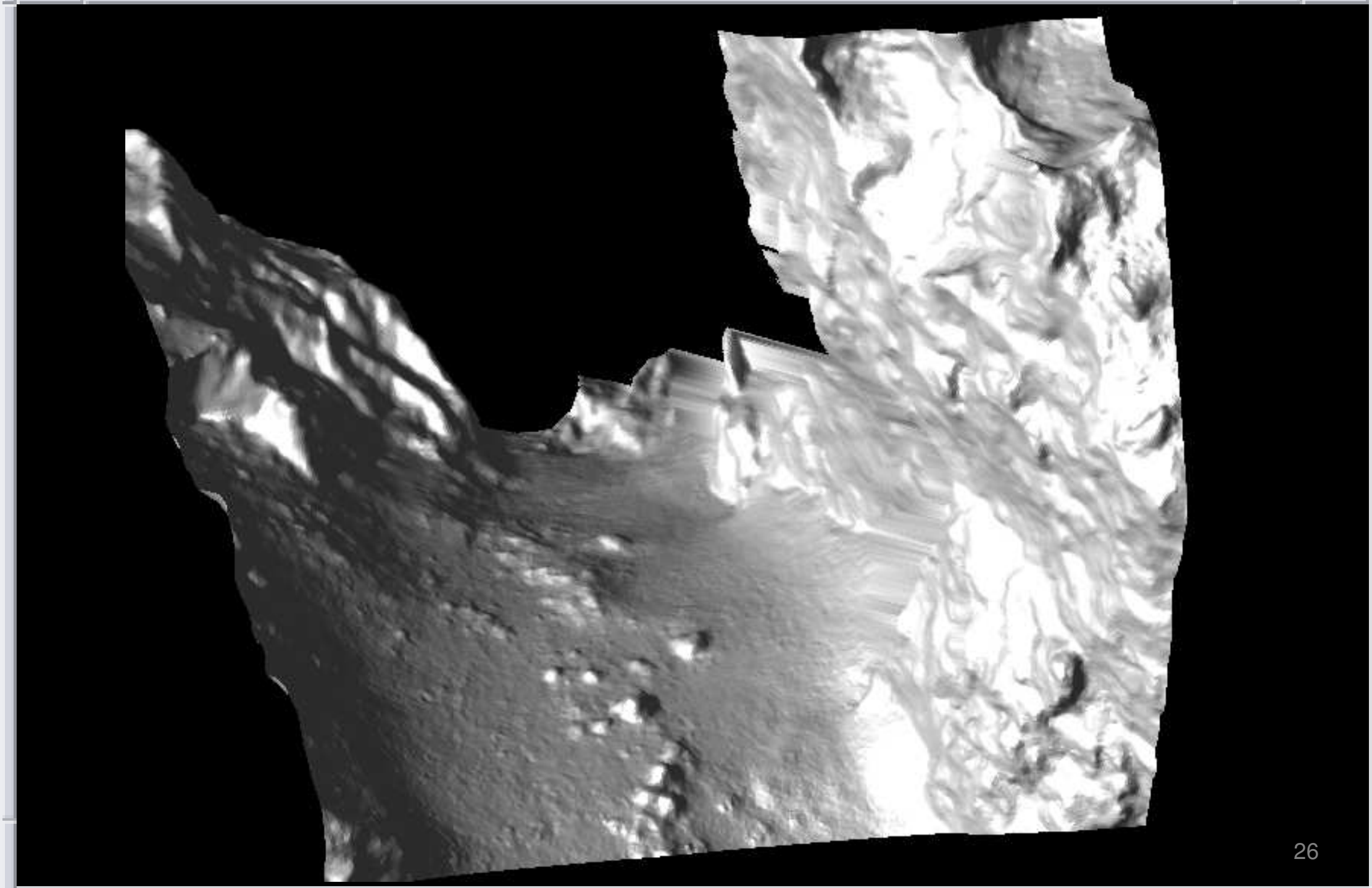
Rotating . . .



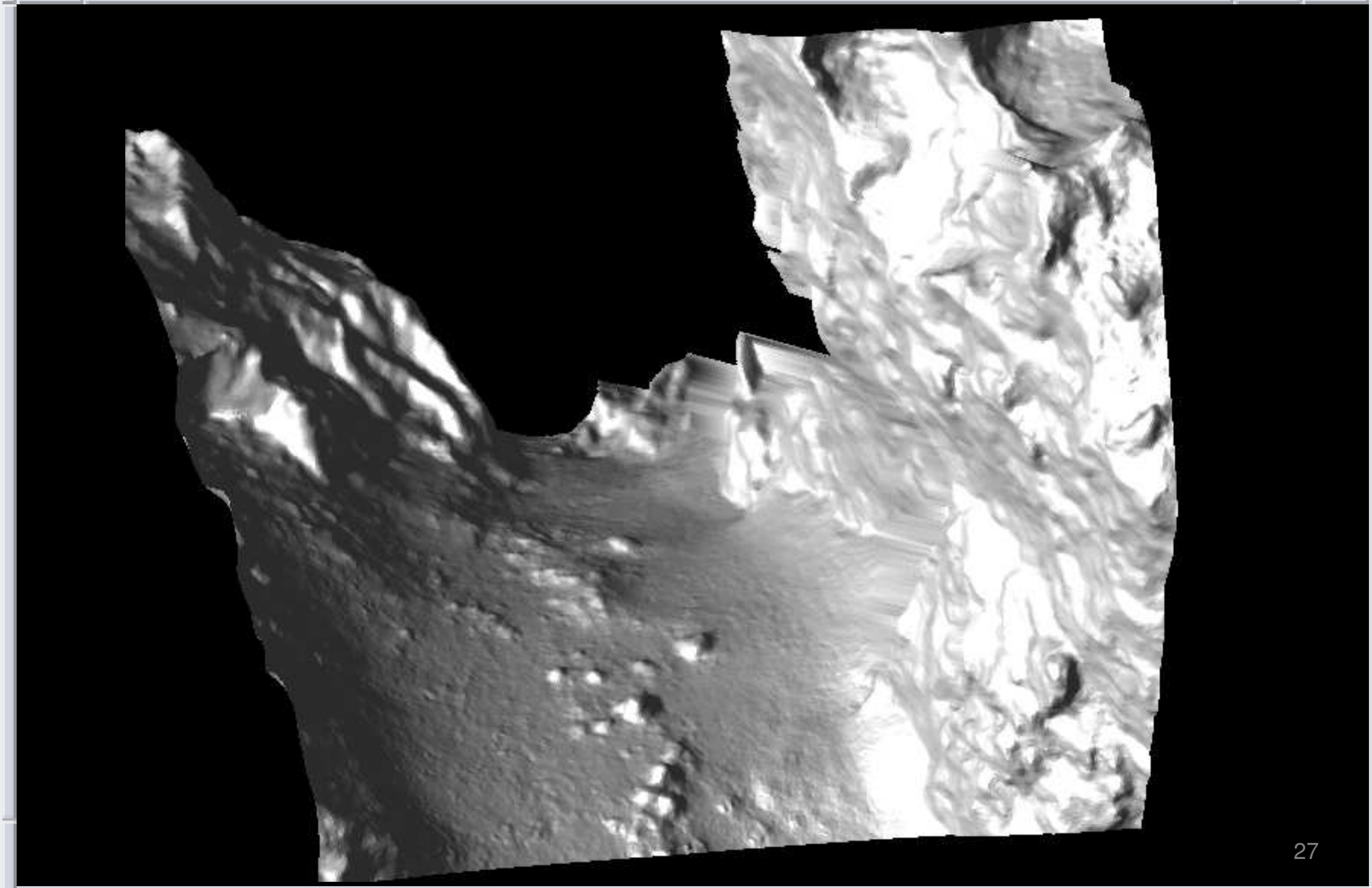
Rotating . . .



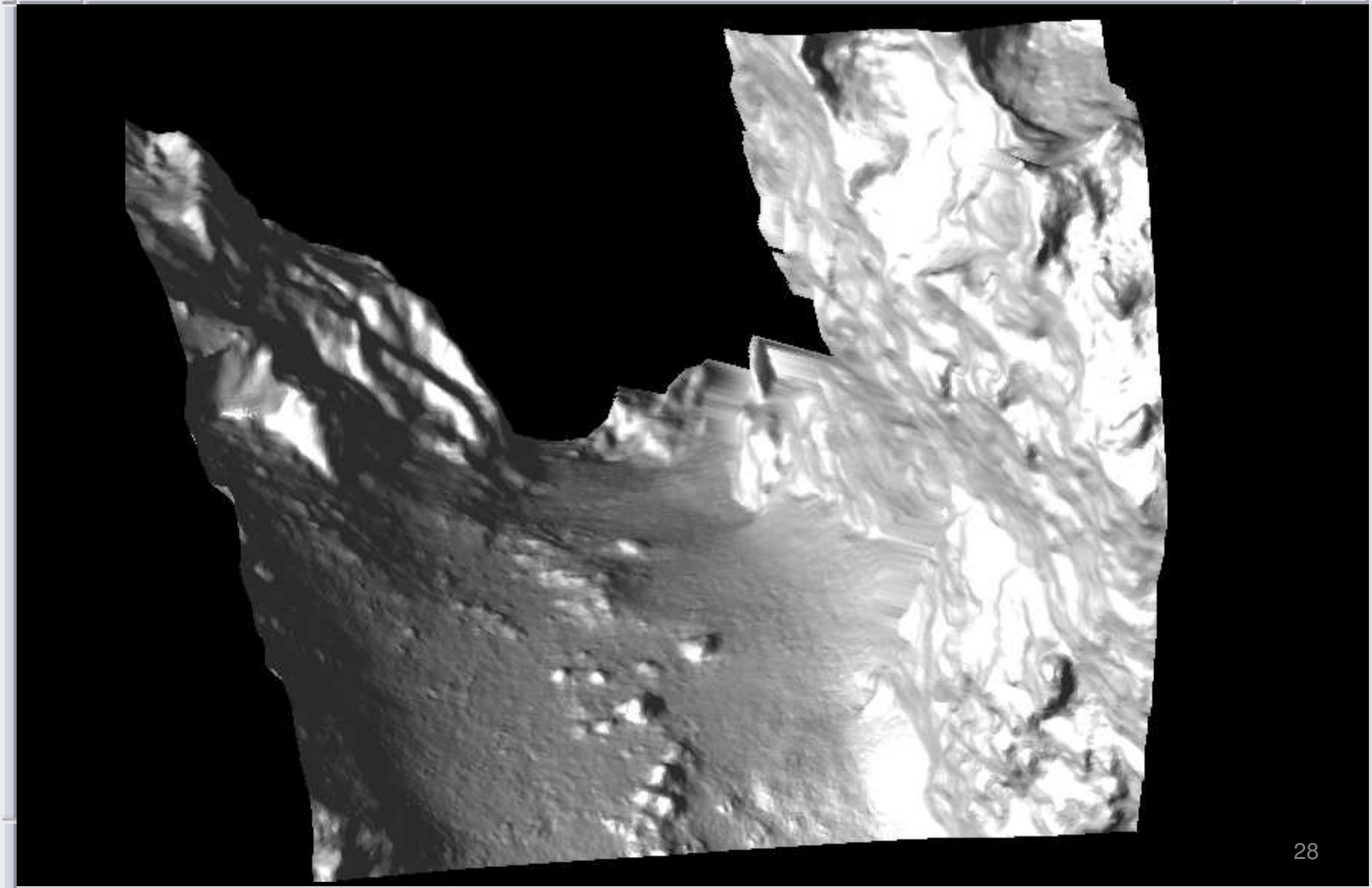
Rotating . . .



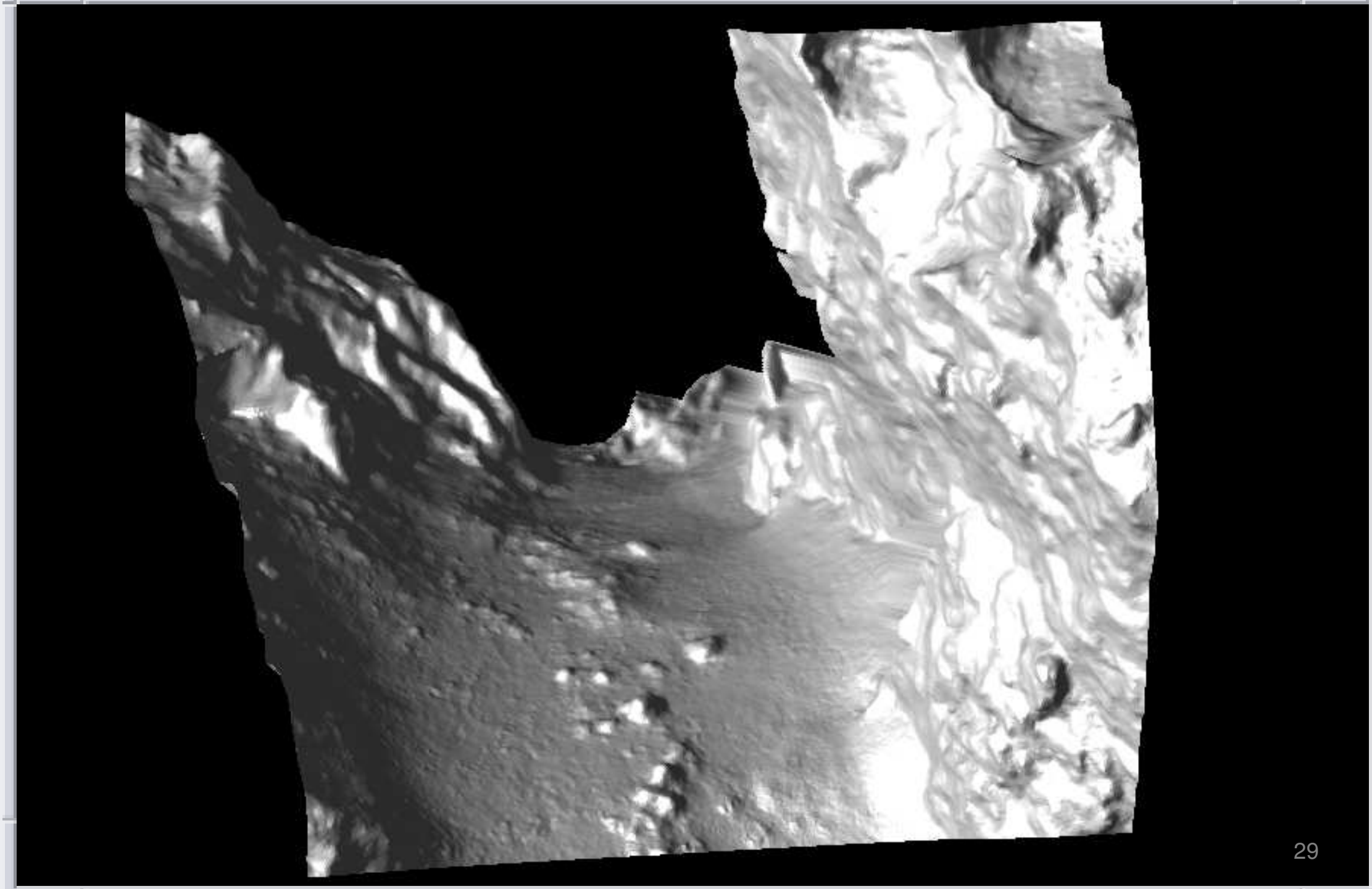
Rotating . . .



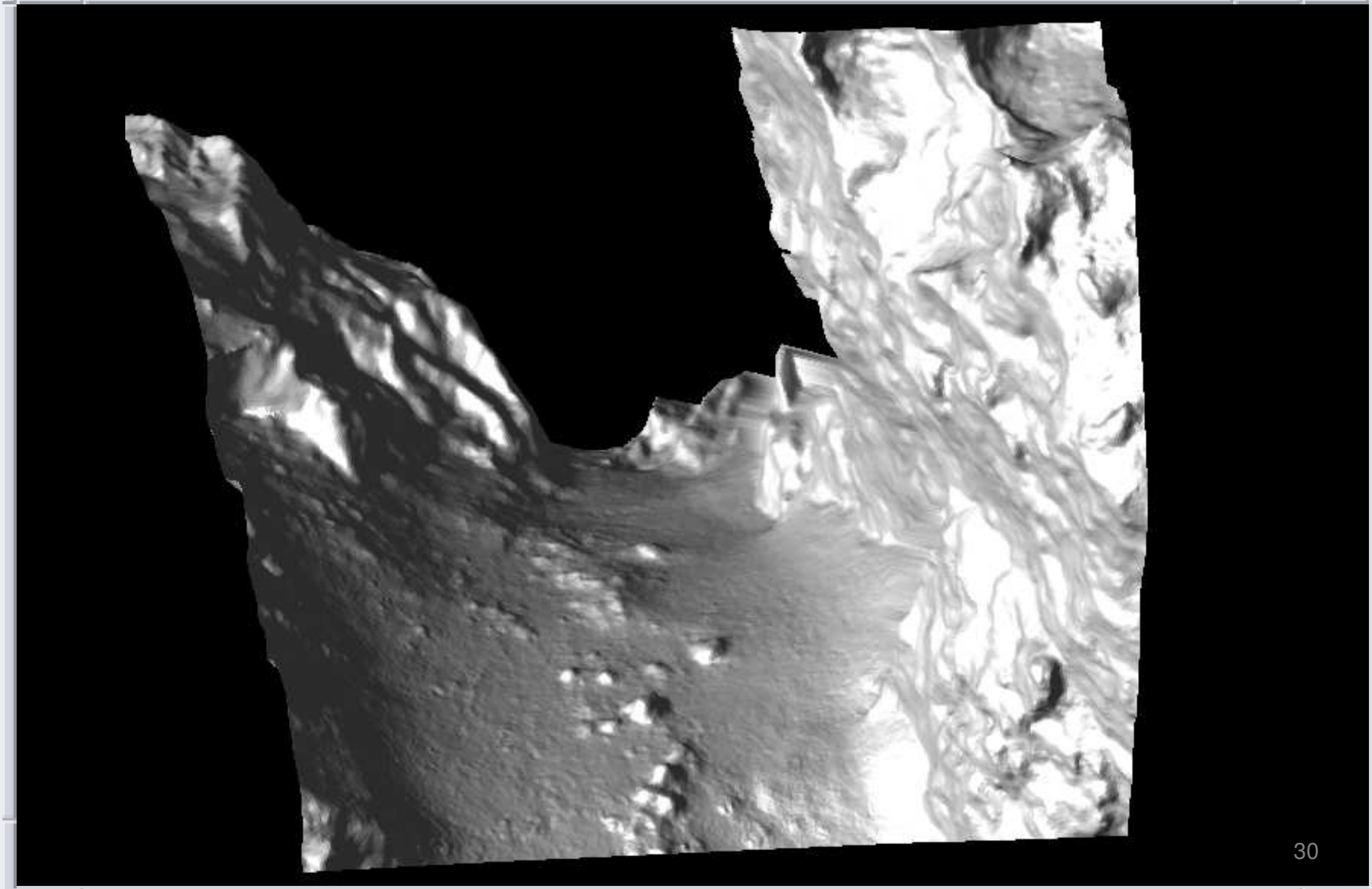
Rotating . . .



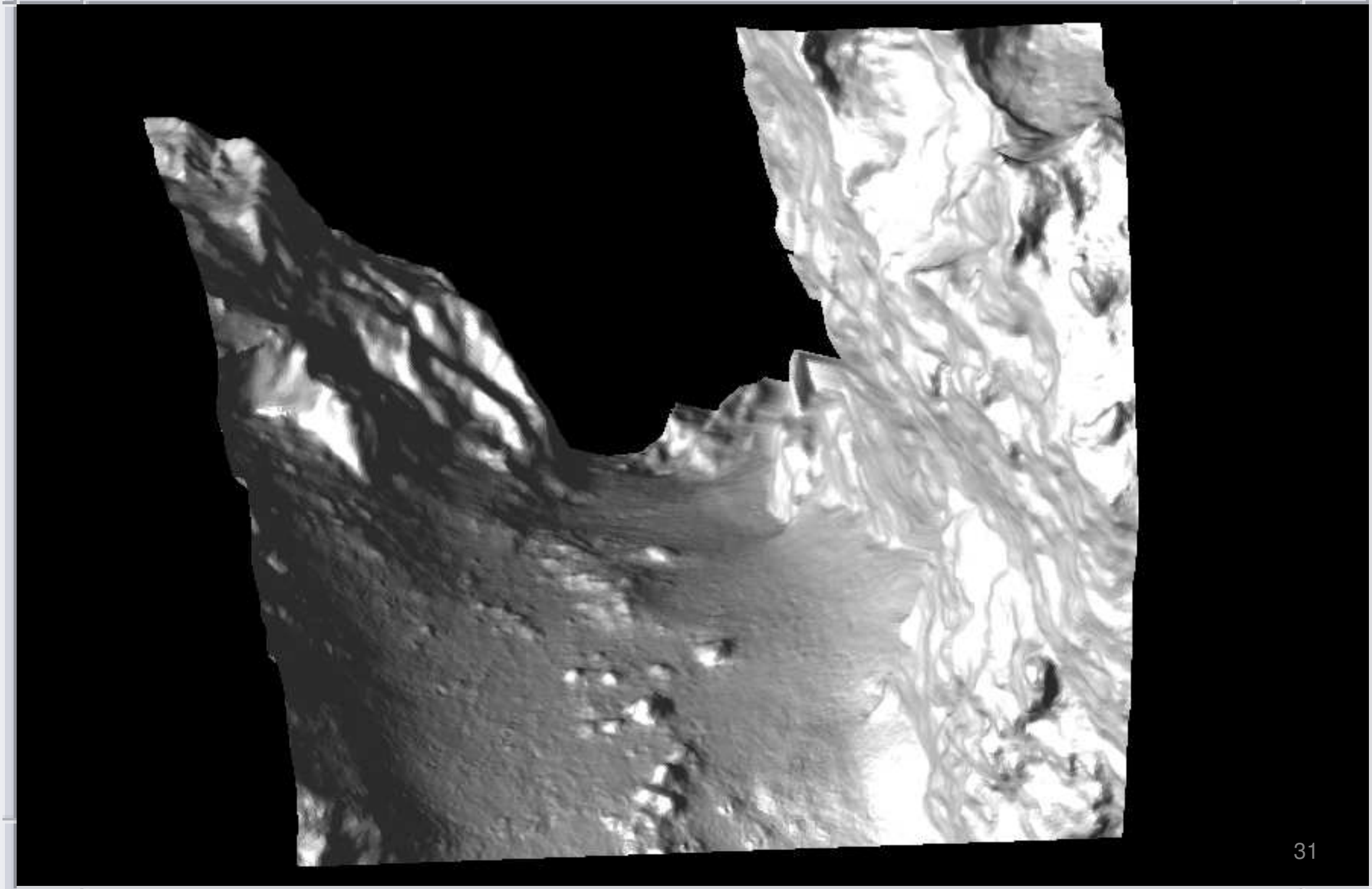
Rotating . . .



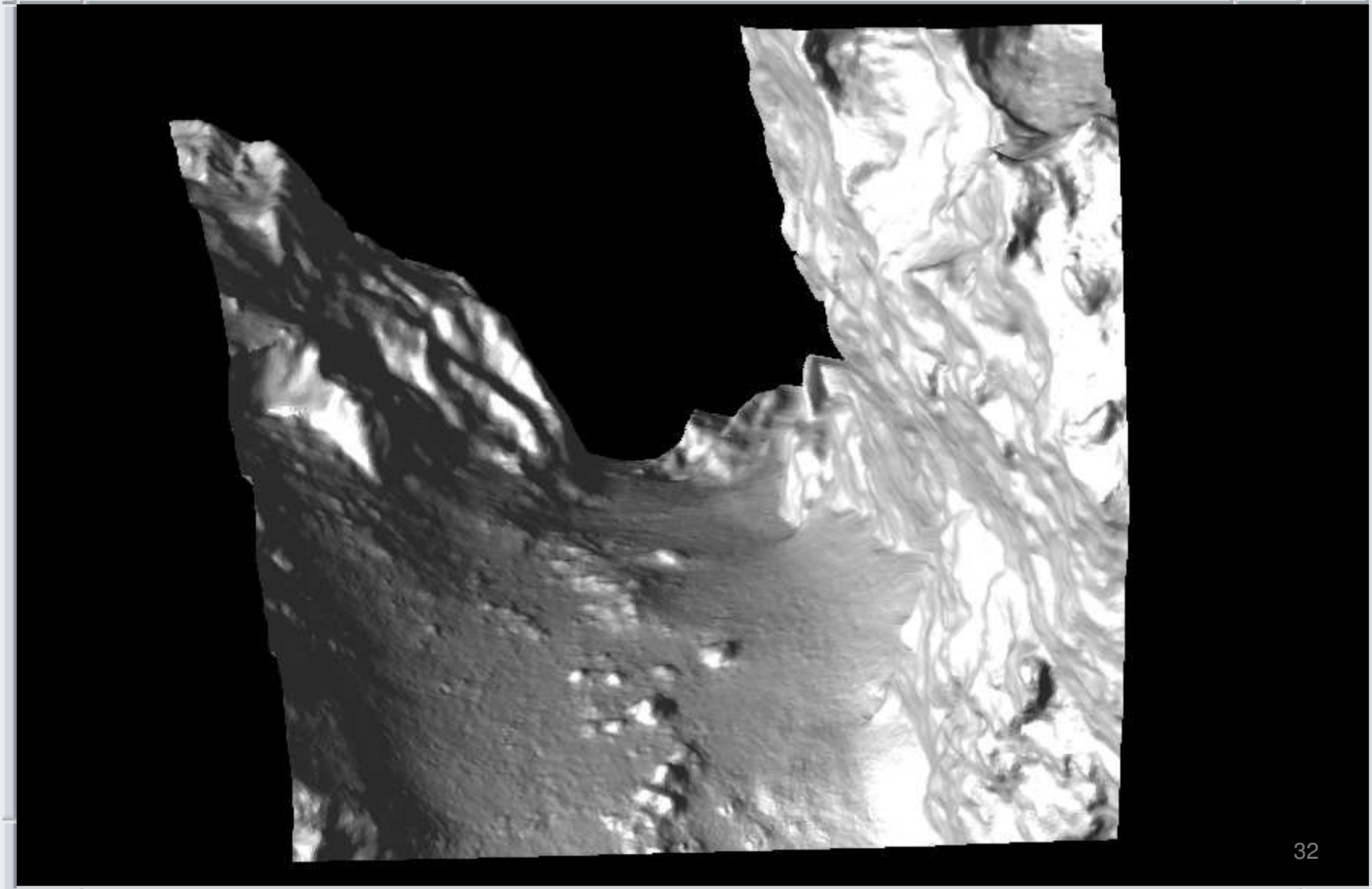
Rotating . . .



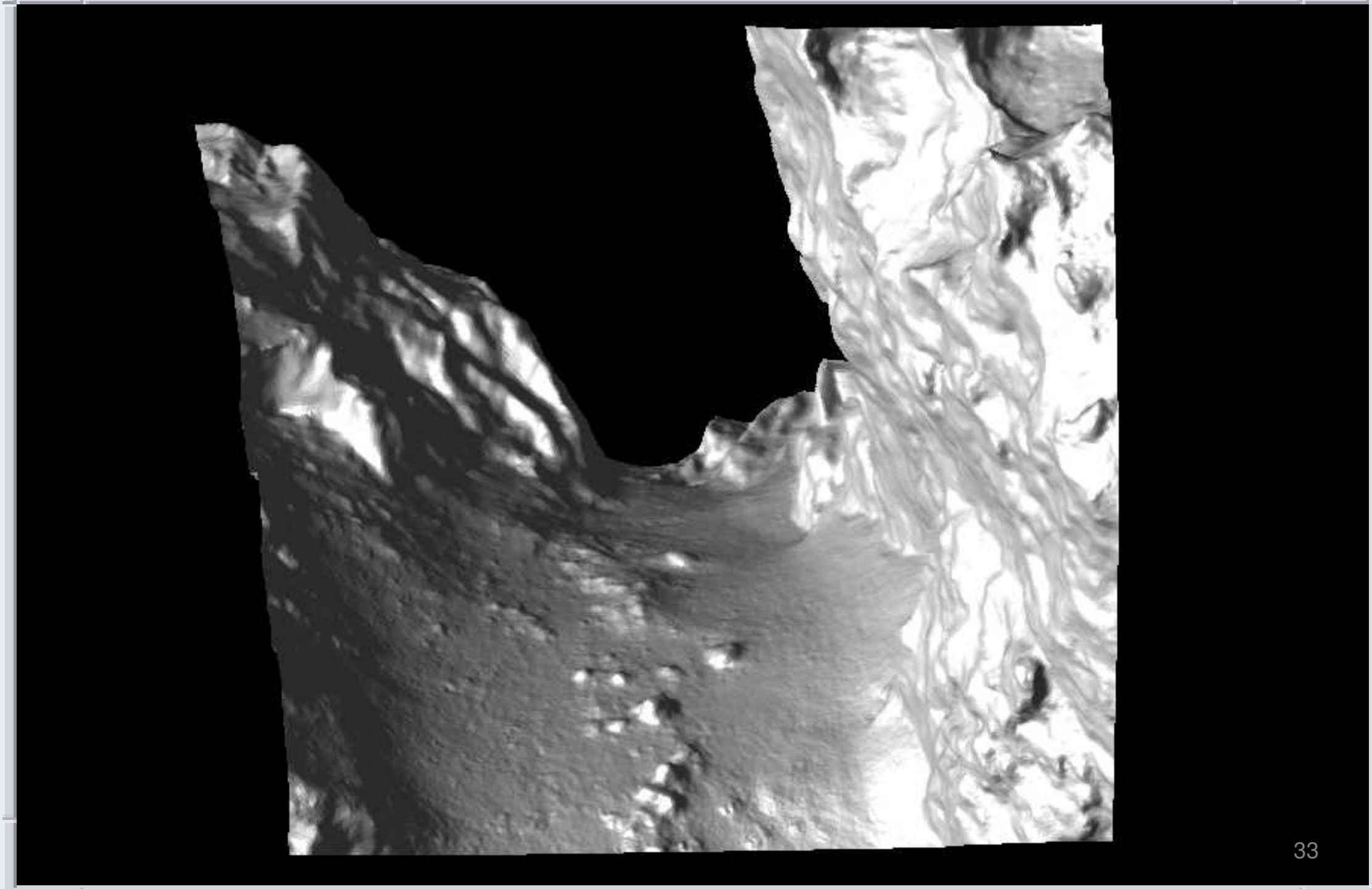
Rotating . . .



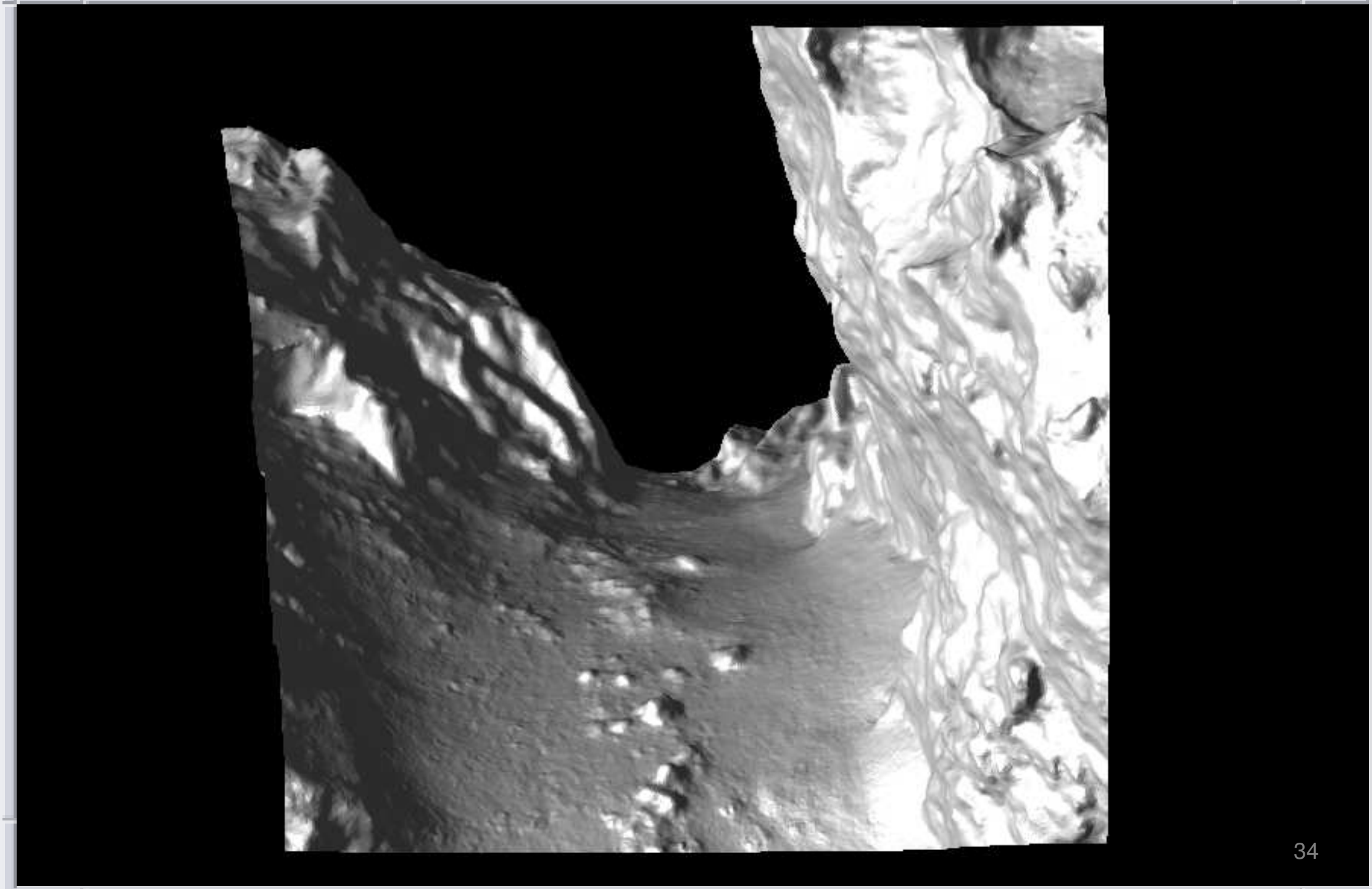
Rotating . . .



Rotating . . .



Rotating . . .



Rotating . . .

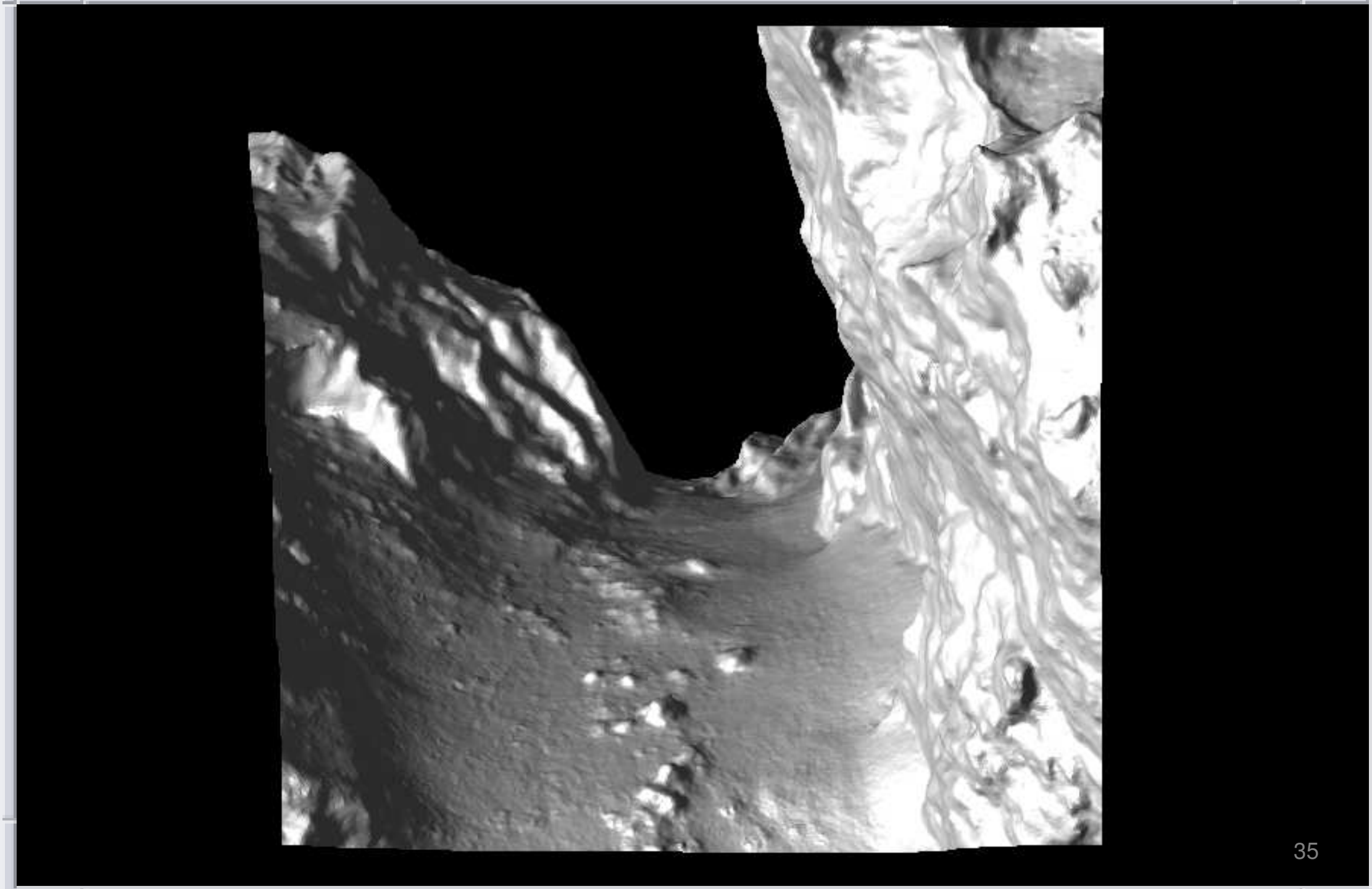
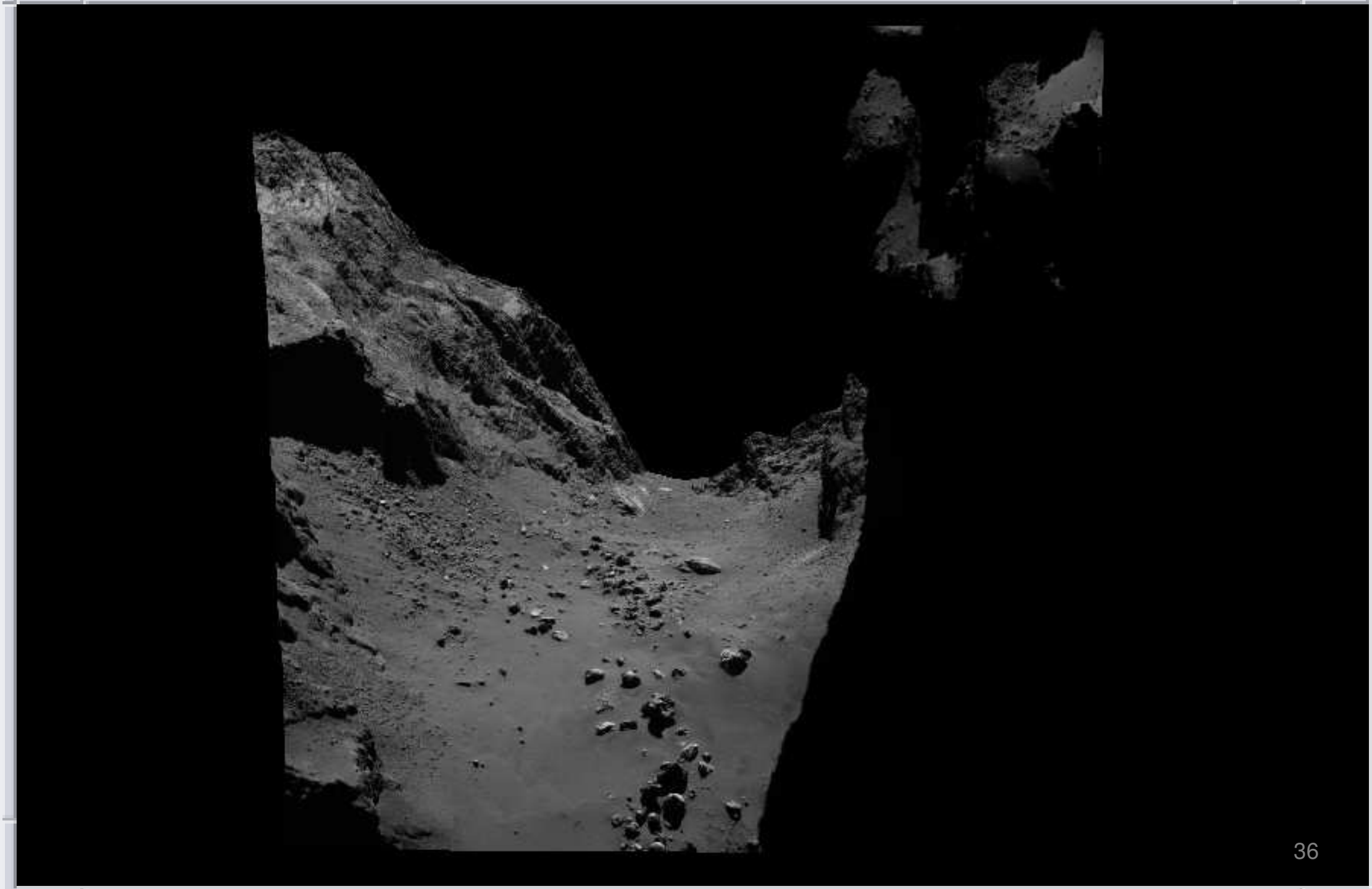


Image with 3D pixel positions



Summary

Excellent data set, just a few minor RIDs:

- Remove the obsolete (and invalid) label file ‘FWPDSLIB.LBL’ (OSIRIS-EU-BG-001).
  - Provide the software in ‘EXTRAS’ unzipped.
- Remove the ‘/* FILE CHARACTERISTICS */’ from the browse labels (OSIRIS-EU-BG-002).
- Remove obsolete versions of calibration documents (OSIRIS-EU-BG-003).
- Make the data user aware of the shutter problem (OSIRIS-EU-BG-004).