SAMIEdit - Getting Started
CHEOPS
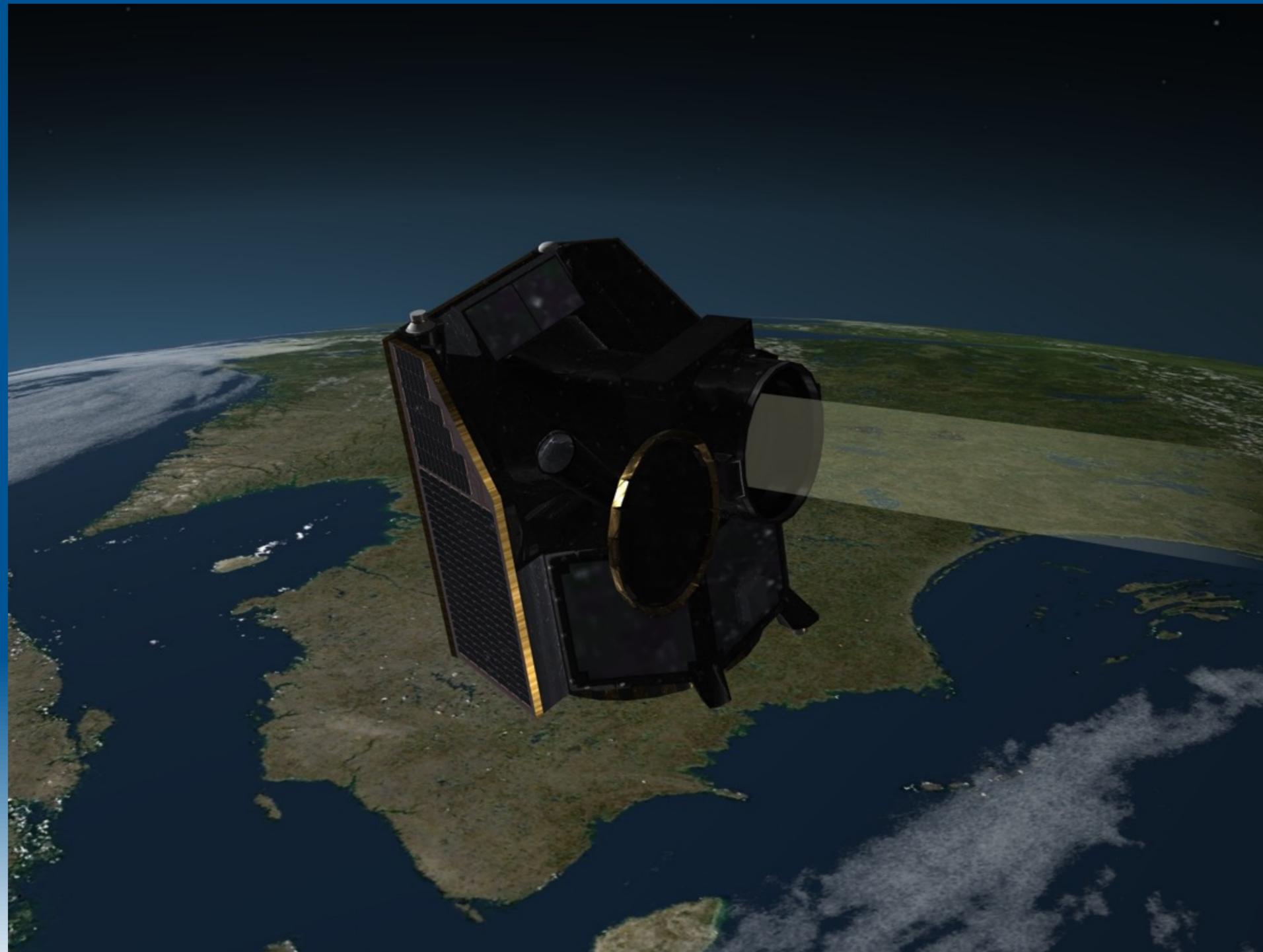
Load Example Project

- Project —> Open

- Select CHEOPS_project
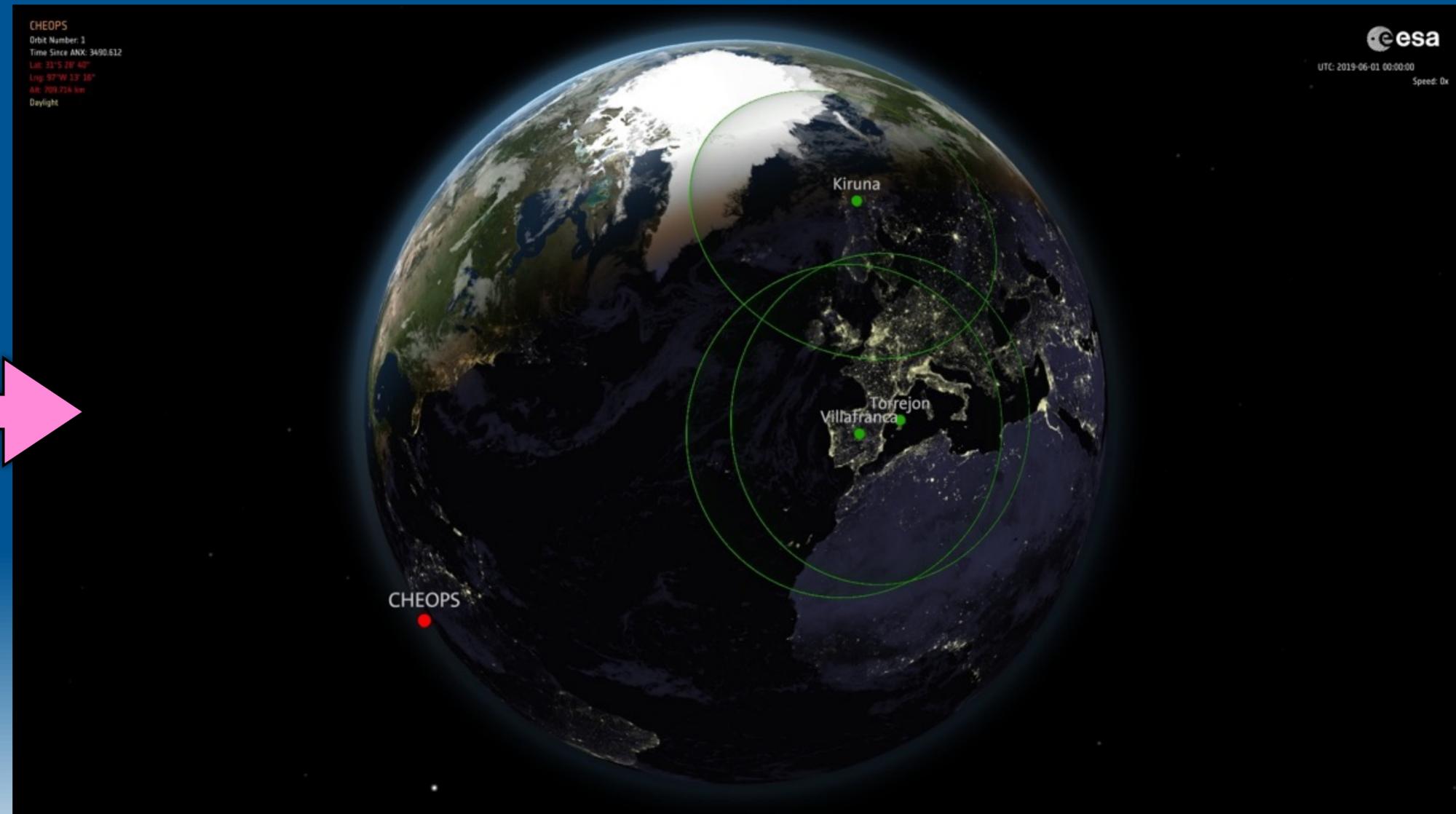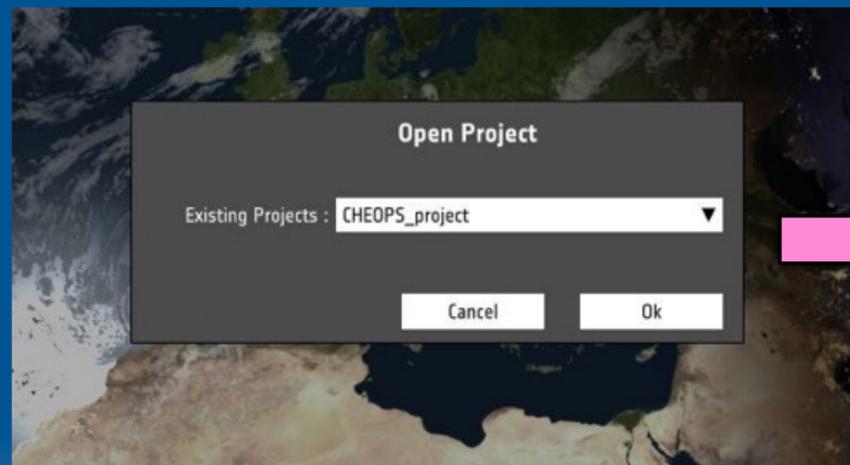
Inspect Example Project
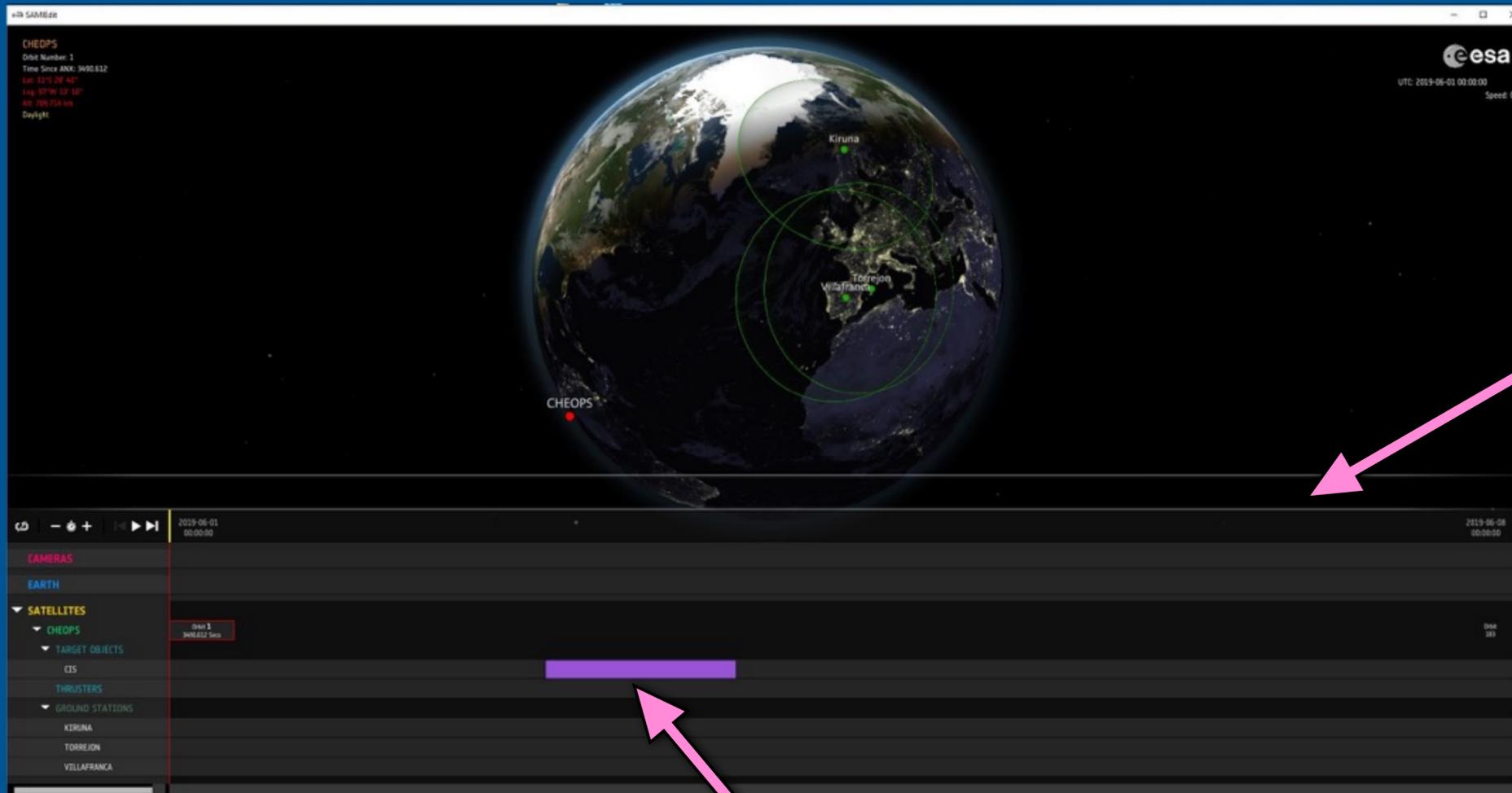
Mouse click and drag up/down to display the Timeline editor

Time block indicating when the instrument is observing a star

Set Camera to Manual Mode

- Cameras —> Enable Manual Camera Mode
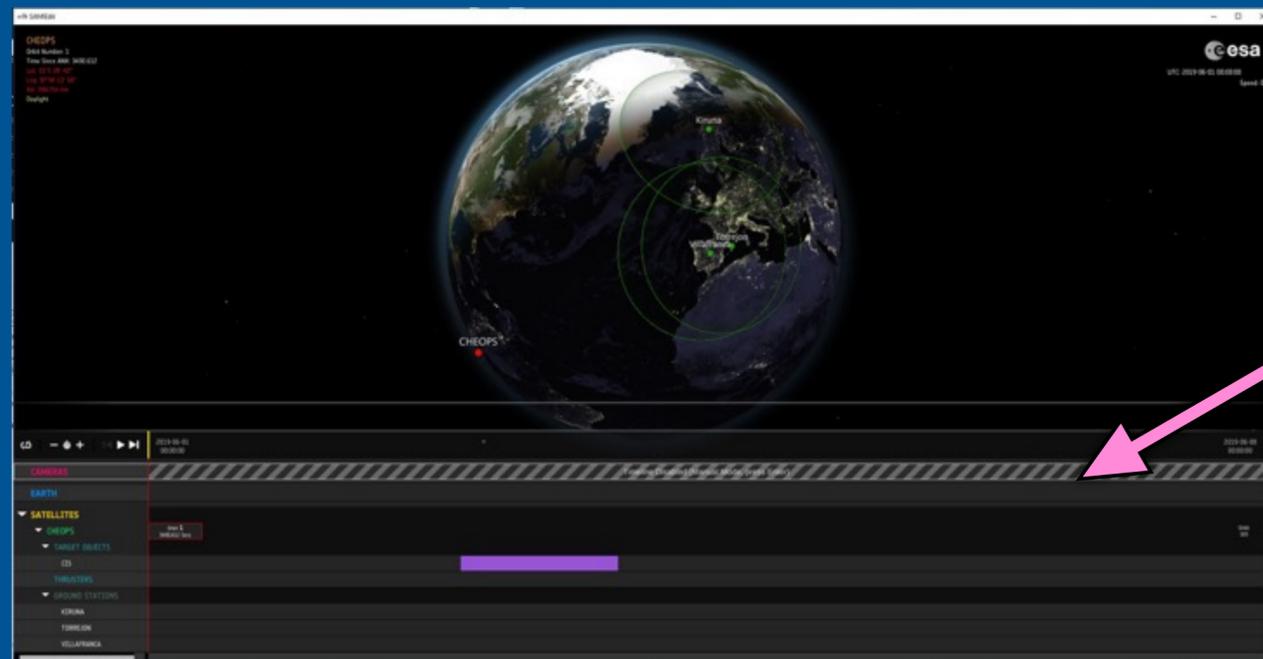
Camera in Timeline Mode is disabled

- Changes in camera view are triggered manually by pressing the 'Enter' key

Change Manually Camera View

- Three camera views available by default
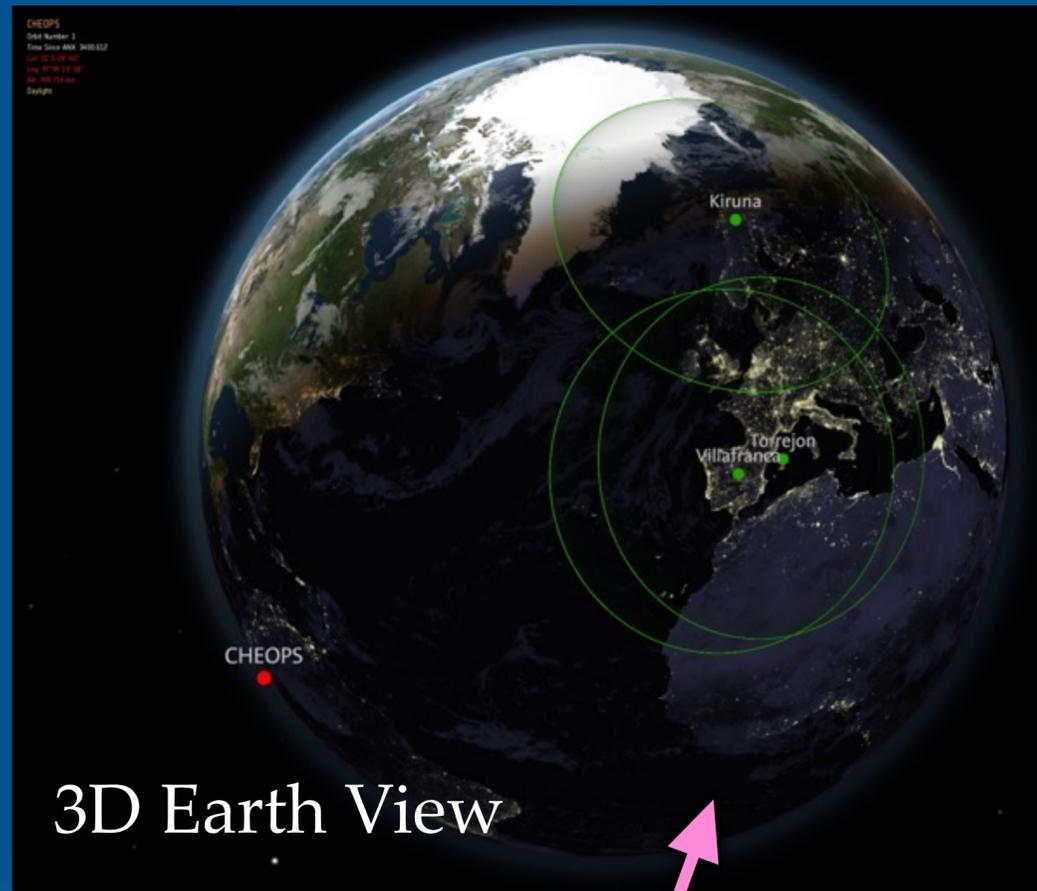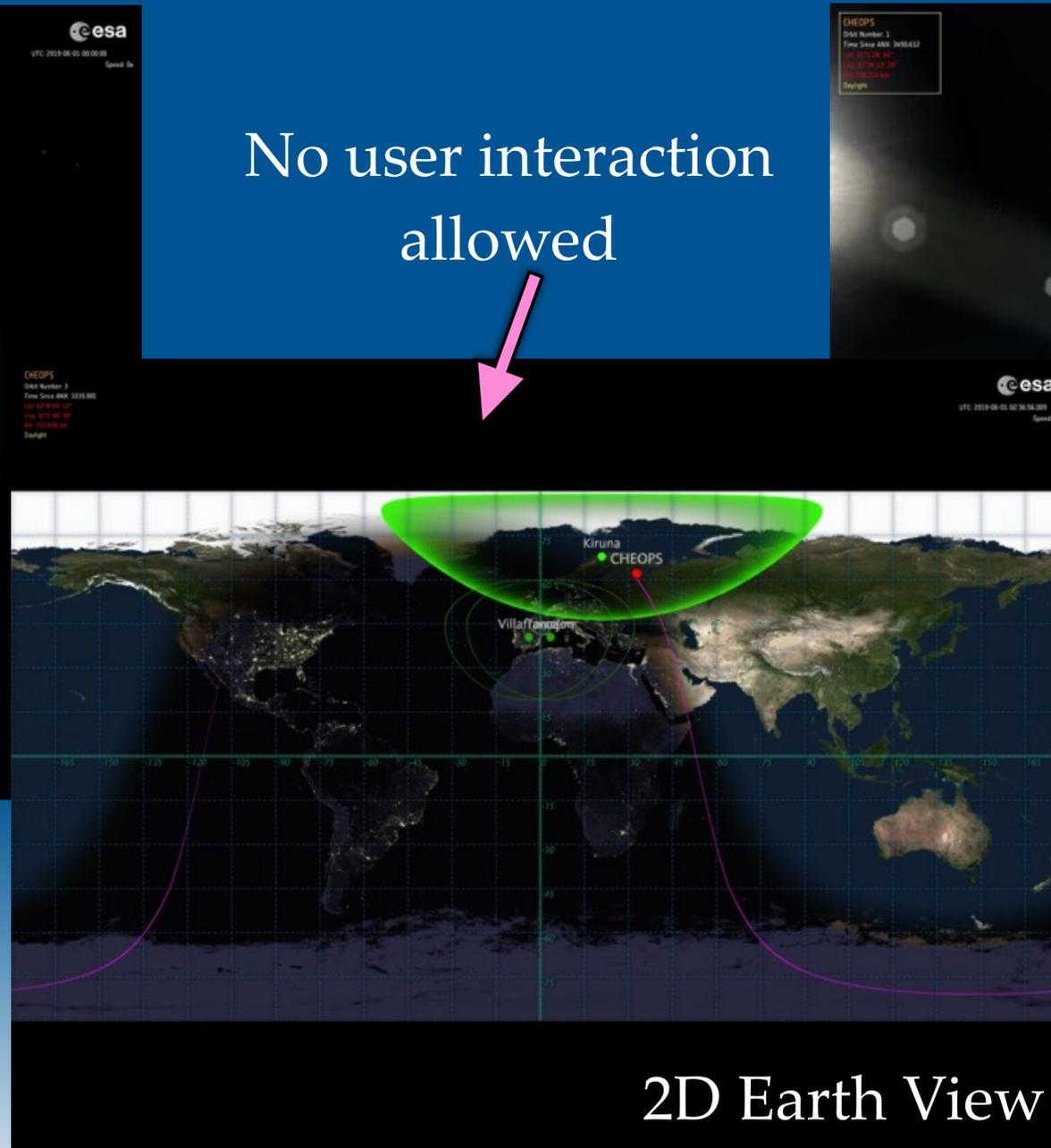
No user interaction allowed

3D Earth View

2D Earth View

Satellite View

Allowed user interaction:
Rotate, zoom and pan

Allowed user interaction:
Rotate, zoom and pan
Double-click on telescope
cover to open/close

CHEOPS Orbit

- Orbit File (in EO XML GS format) copied into "POF" folder
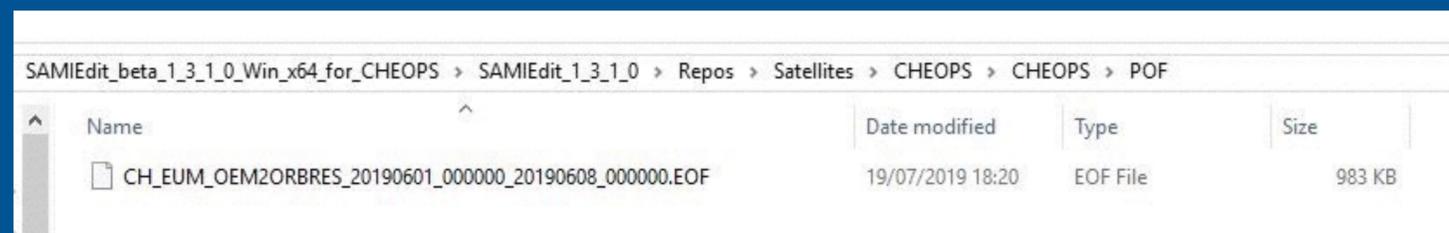
- Orbit File loaded through application interface
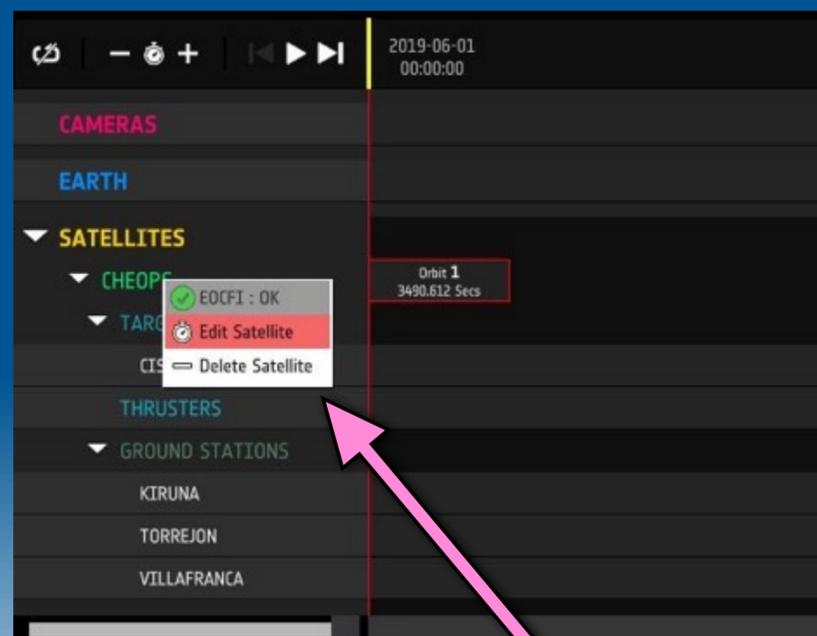
Select Orbit filename
in POF folder
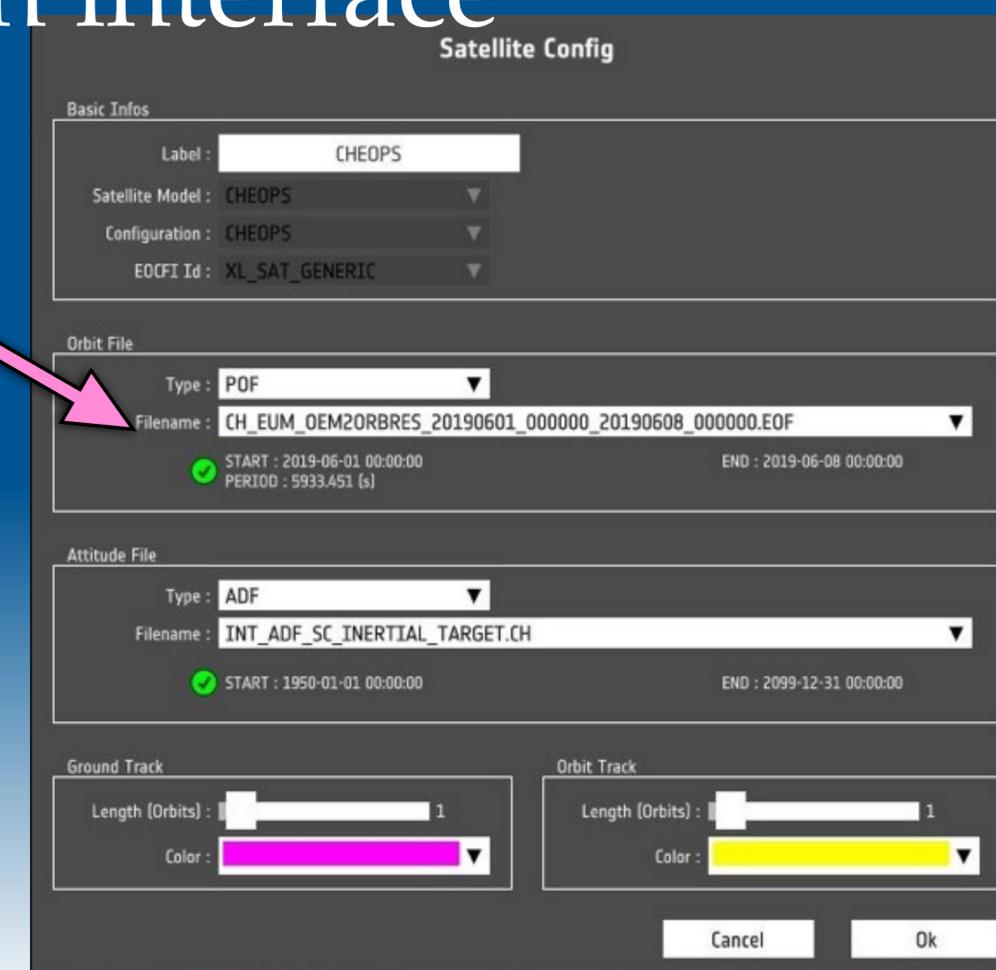
Right-click on CHEOPS

CHEOPS Attitude

- Attitude Definition File (in EO XML GS format) copied into "ADF" folder
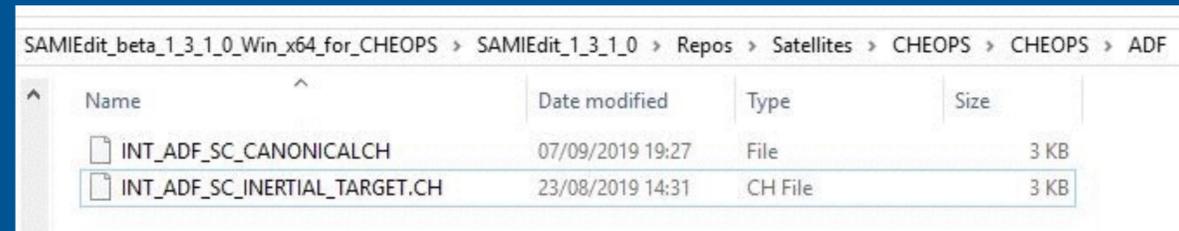
- Attitude Definition File loaded through application interface
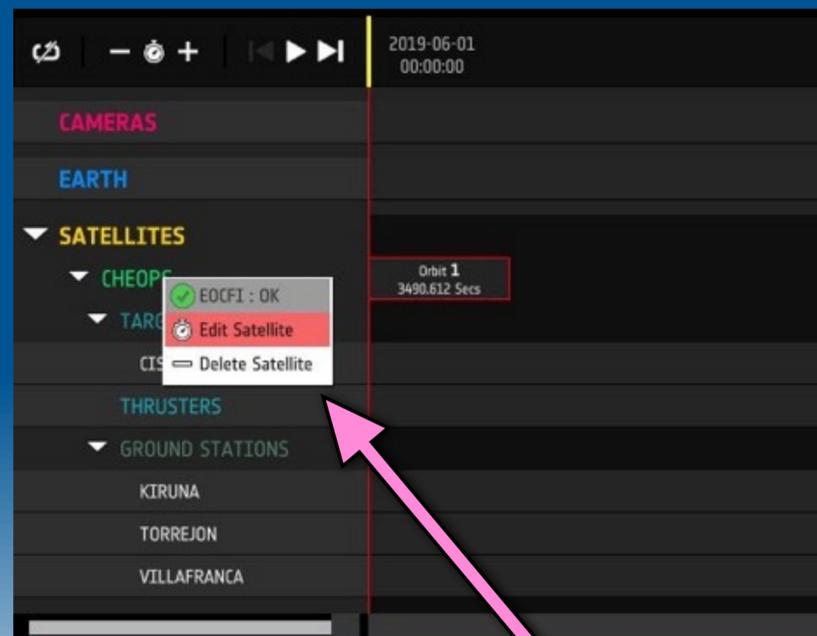
Right-click on CHEOPS

Select Attitude filename in ADF folder

CHEOPS Attitude

- Two attitude Definition Files are provided by default in the "ADF" folder
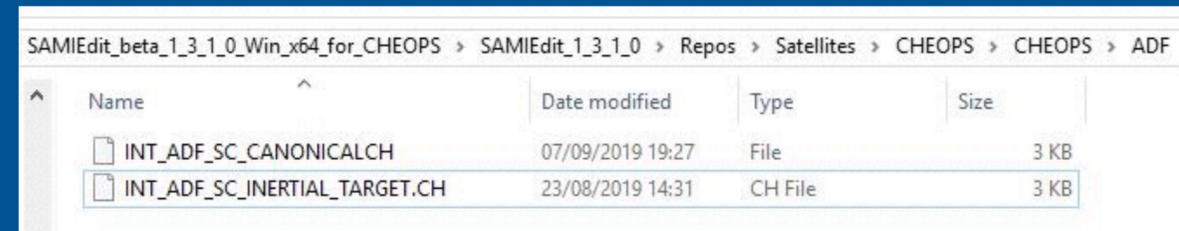
★ Canonical —> Primary axis pointing to the opposite direction to the Sun

★ Inertial Target —> Primary axis pointing to the star location

Coordinates of the target star (RA,DEC)

CHEOPS Attitude (II)

- It is also possible to supply attitude quaternion data (in EO XML GS file format) through the "ATT" folder

- Useful to display transitions between attitude modes

Display Instrument Field-of-View

- Add a time block in the "Target Objects" timeline element

Right-click and drag to create blocks

Right-click on block to edit

- The Start/Stop UTC times can be edited
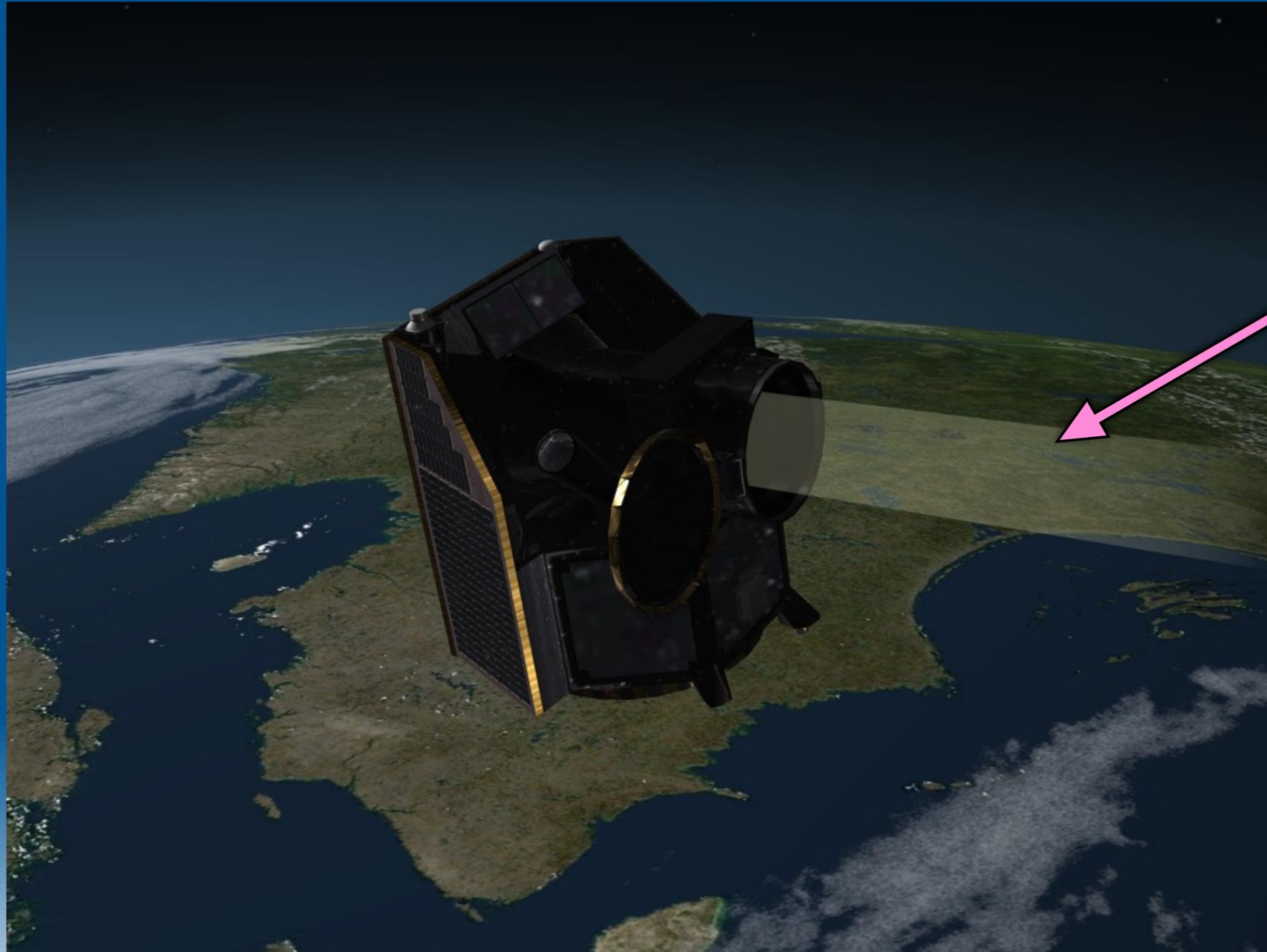
Whenever the simulation time goes through an instrument time block, the field-of-view of the telescope is displayed

Display Sunlight Ray Direction

- Application —> Show Sunlight Rays

Direction to the Sun can be displayed
to check satellite Sun illumination
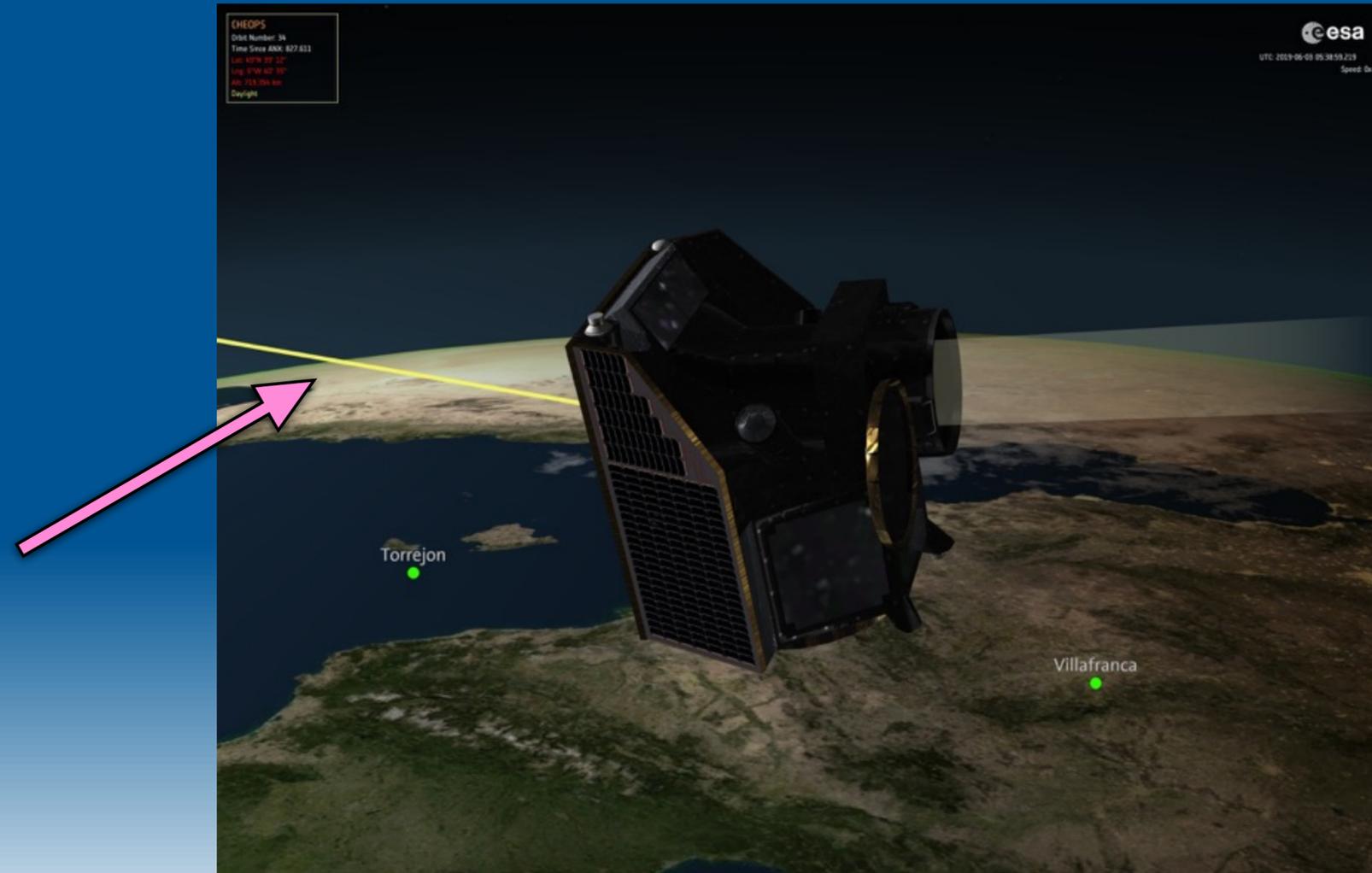
Ground Station Visibility

- Ground Station visibility area is highlighted whenever CHEOPS is in visibility
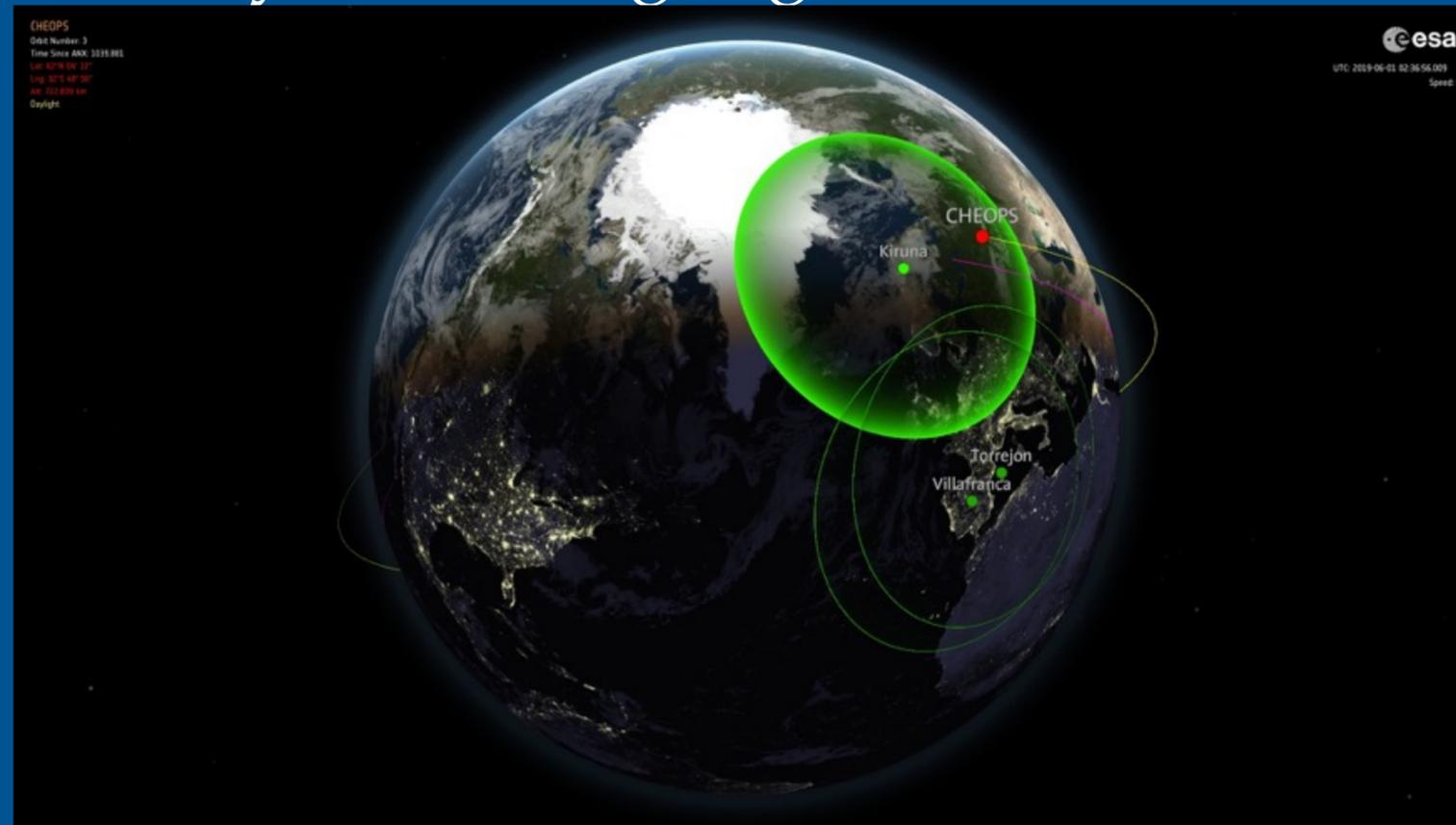
- List of default CHEOPS Ground Stations can be found in file "GroundStations_Ids.txt"

Support Tools

- Executable tool OEM_XML2OrbitFile to transform from OEM XML orbit file to EO XML GS Orbit File format

- Executable tool TLE2ORBPRE to transform from TLE orbit file to EO XML GS Orbit File format

Example of
TLE file, saved as
tle_20_DEC_2019_1.txt

```
CHEOPS
1 44874U 19092B   19354.15736652 -.00000046  00000-0  00000+0 0  9995
2 44874  98.2275 175.8674 0007499 299.9362  60.1092 14.56925462   258
```

Example of input configuration file

```
GENERIC
CHEOPS
44874
19092B
tle_20_DEC_2019_1.txt
30.0
```

Note: TLE files for CHEOPS mission cannot be loaded directly in SAMI as type 'TLE'.
The TLE file needs to be converted EO XML GS orbit file using TLE2ORBRE.
The output orbit file can then be ingested in SAMI as type 'POF', see Slide 6

User Support

- SAMI User Support contact e-mail
sami@eopp.esa.int

- For further details on the application interface and available features, please have a look to the SAMI Quick Start Guide SAMIEdit_Quick_Start_Guide_Desktop_v1_3_4.pdf