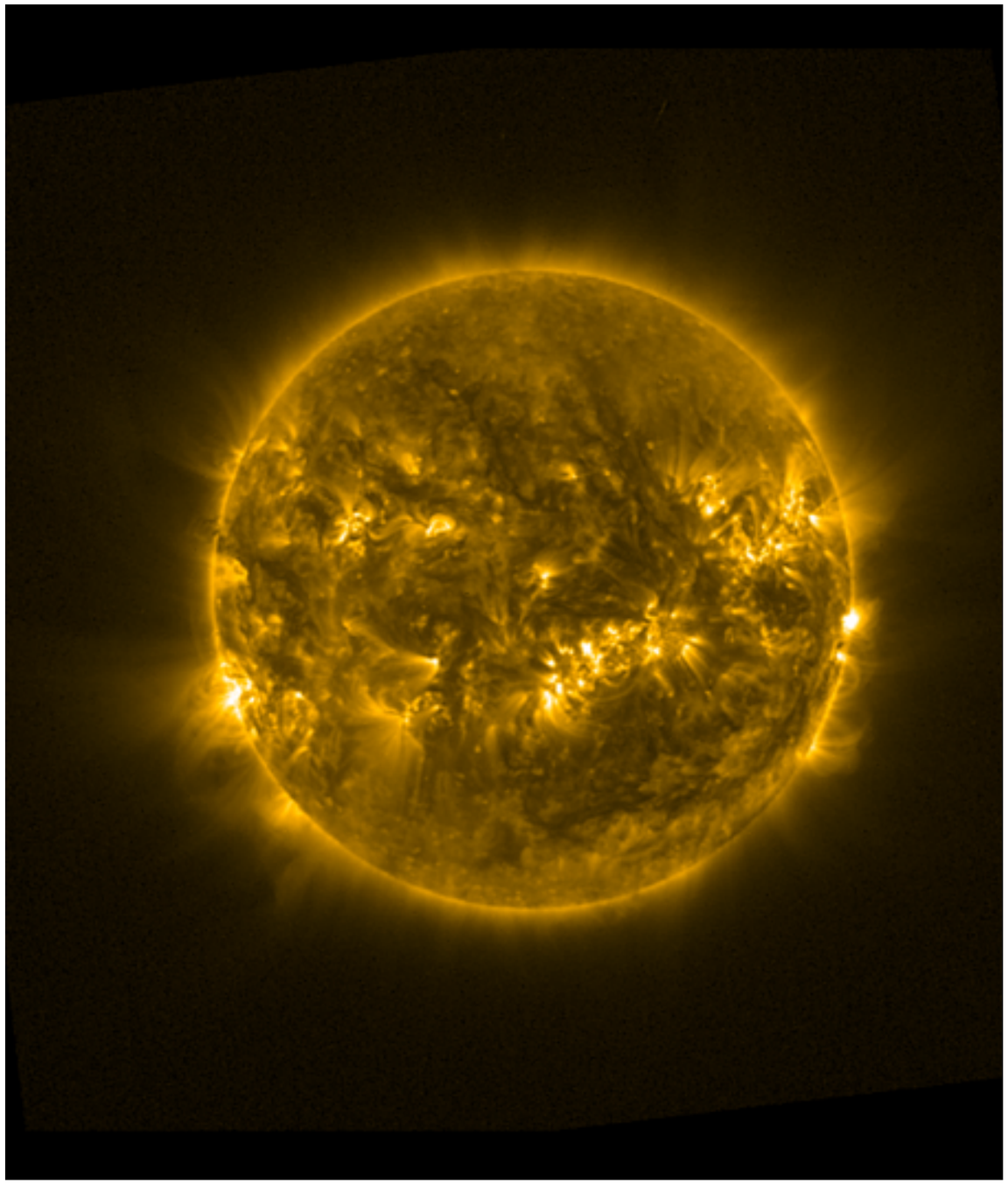
Coordinates in SWHV

SWHV Team from the Royal Observatory of Belgium
(Freek Verstringe, Bram Bourgoignie, Bogdan Nicula)

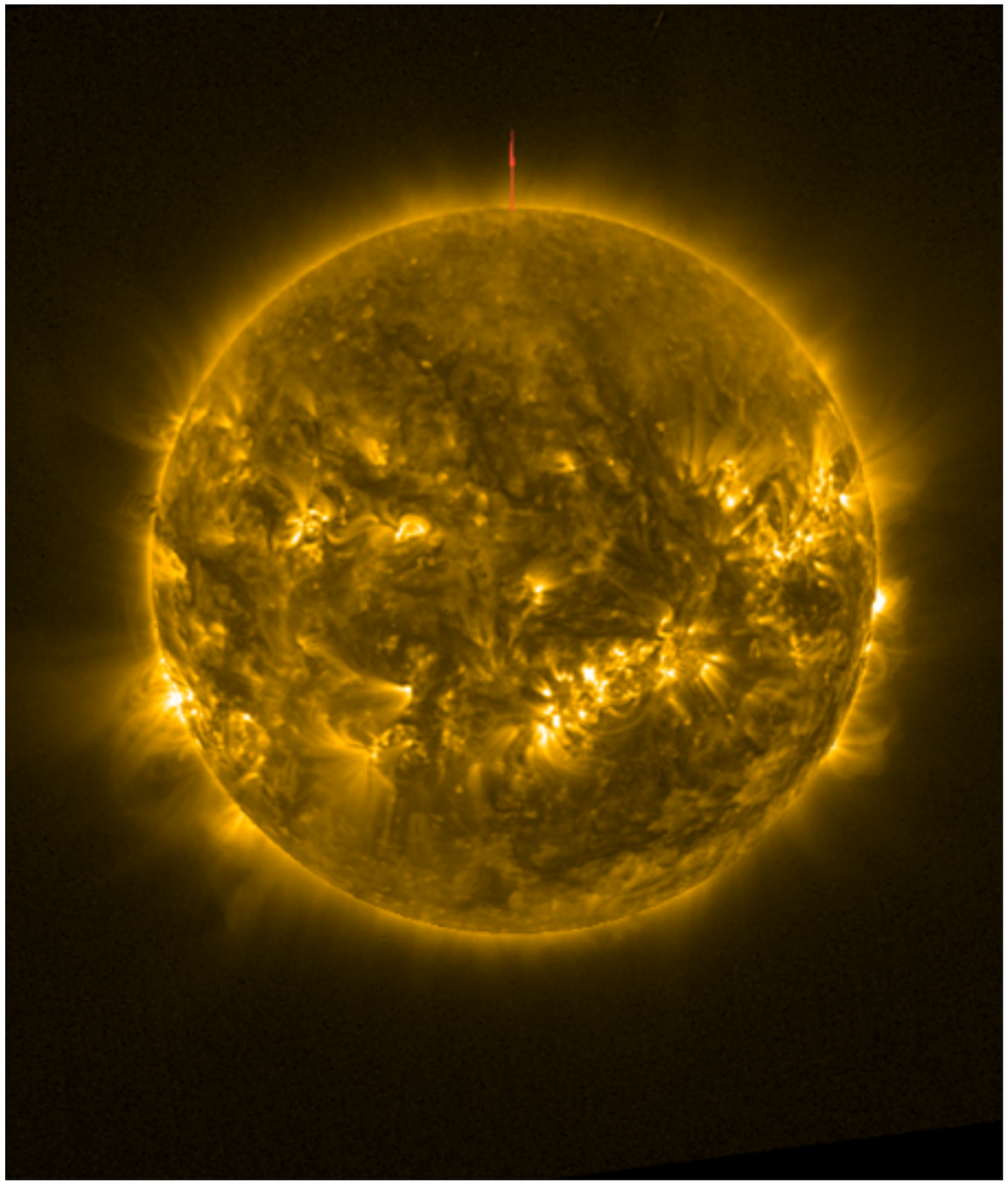
Placement images

- Flat image



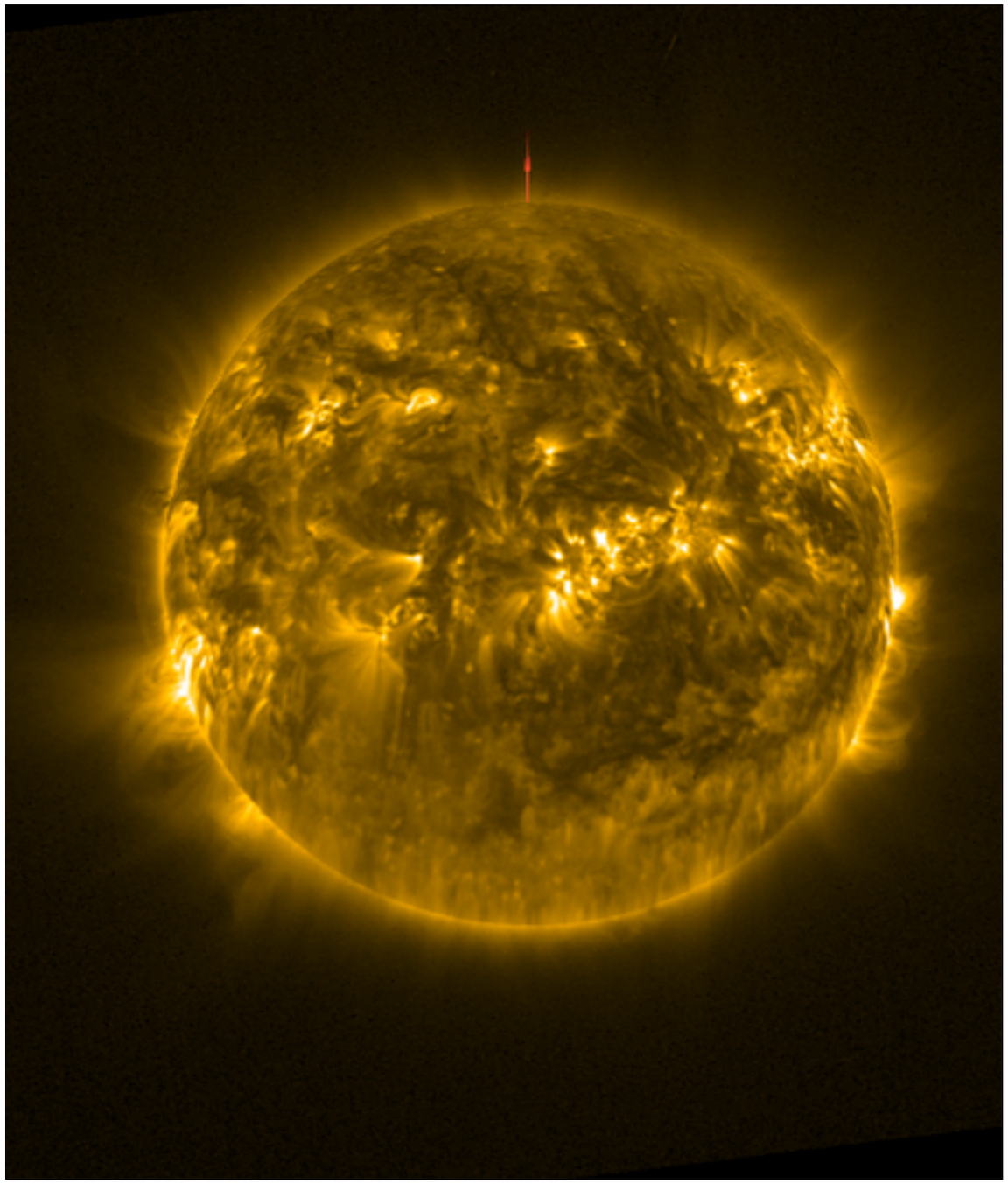
Placement images

- Flat image
- Make 3D



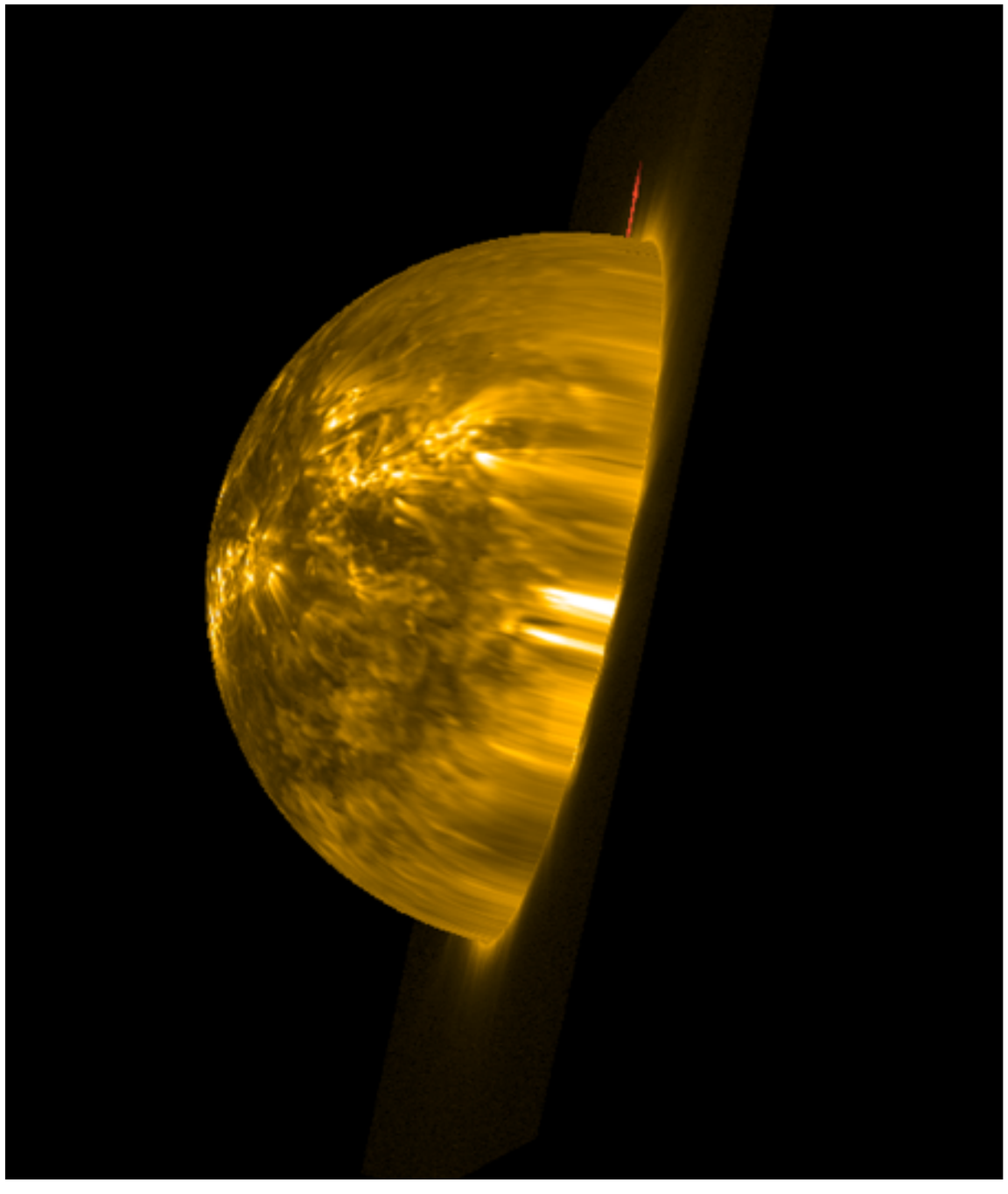
Placement images

- Flat image
- Make 3D
- Solar north up(HGLT_OBS)



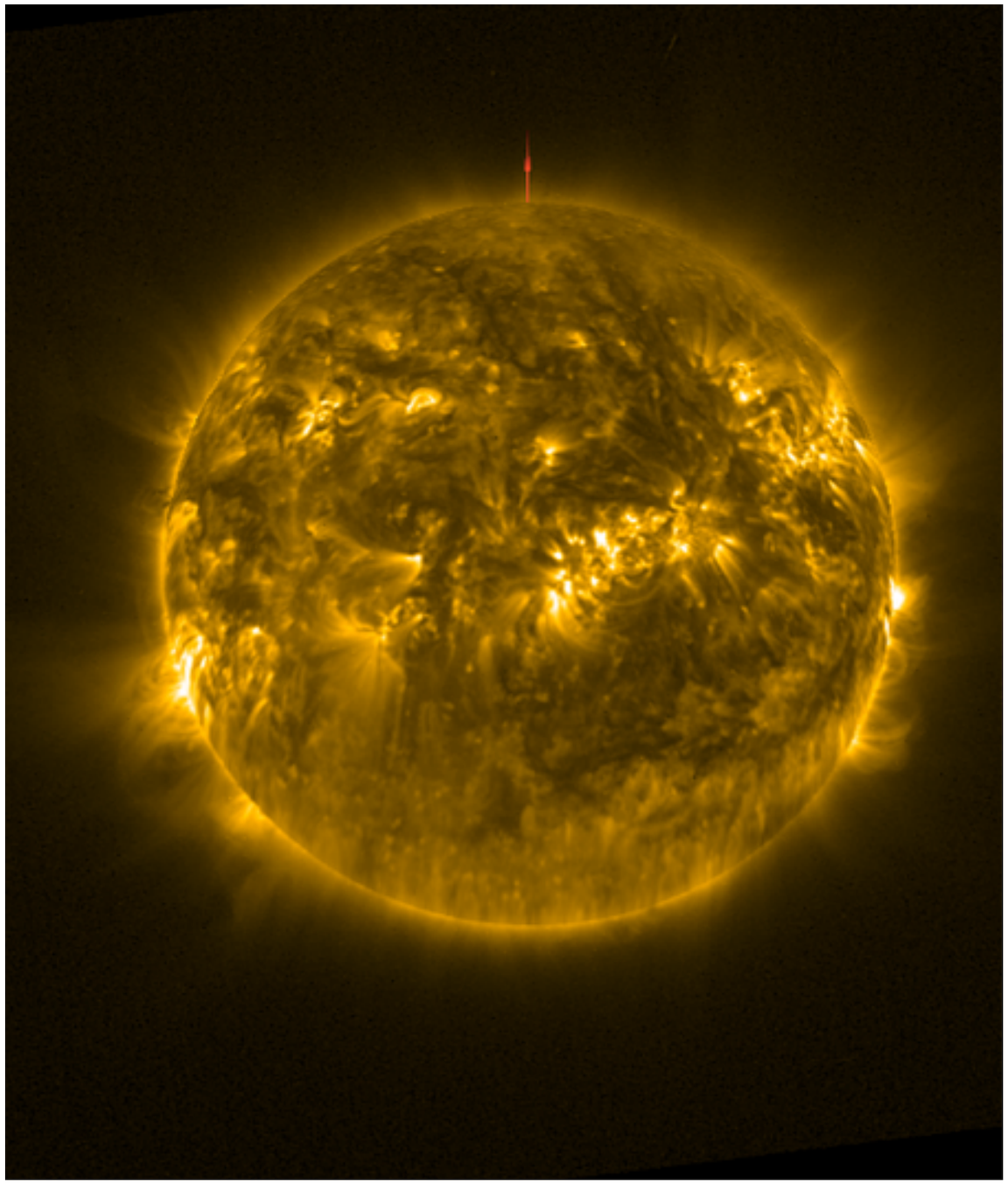
Placement images

- Flat image
- Make 3D
- Solar north up(HGLT_OBS)
- Rotate backwards over (j2k-curtime)*speed +HGLN_OBS



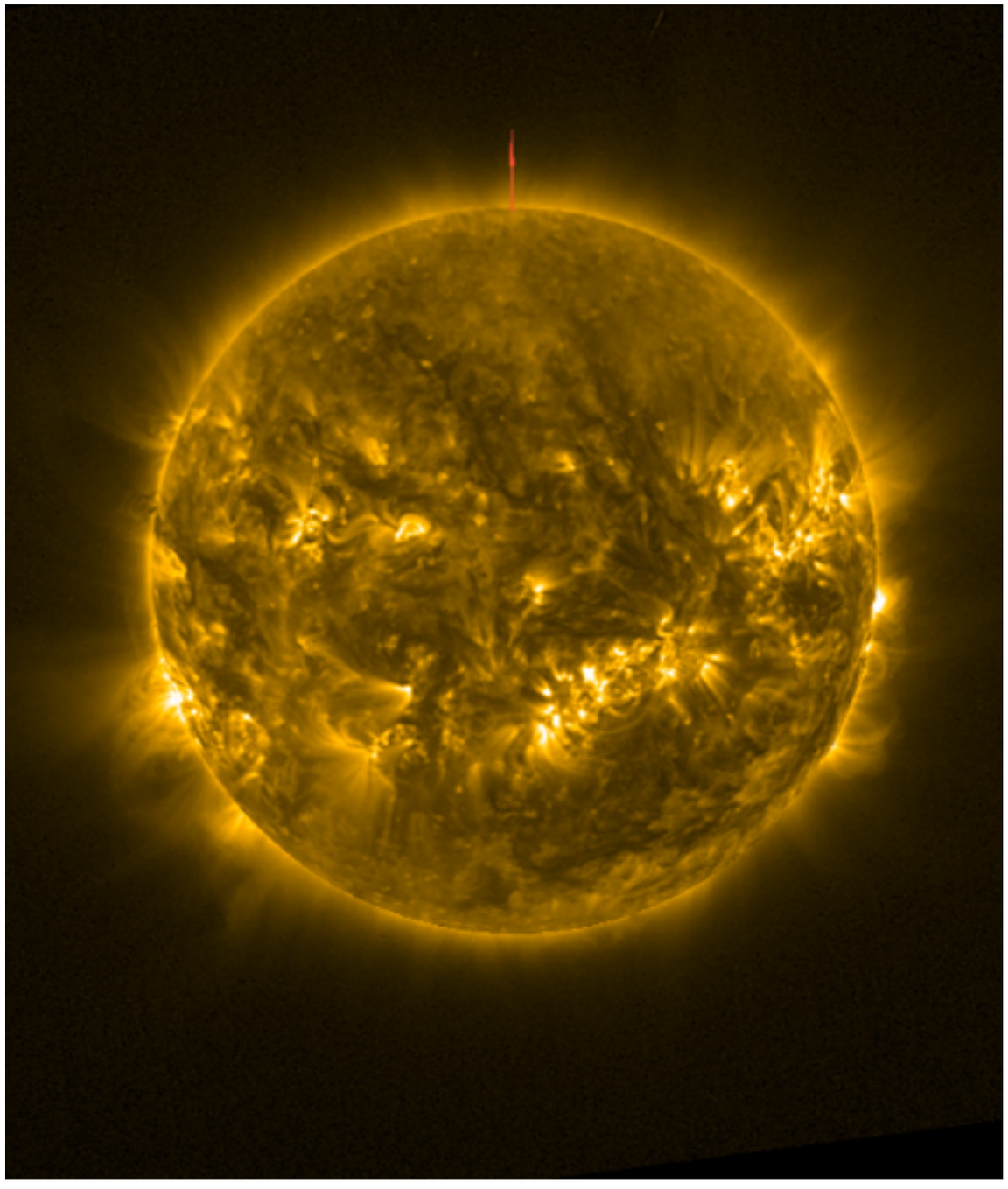
Placement camera

- Flat image
- Make 3D
- Solar north up(HGLT_OBS)
- Rotate backwards over (j2k-curtime)*speed +HGLN_OBS
- Rotate camera forwards over -(j2k-cameratime)*speed +HGLN_CAMERA



Placement camera

- Flat image
- Make 3D
- Solar north up(HGLT_OBS)
- Rotate backwards over (j2k-curtime)*speed +HGLN_OBS
- Rotate camera forwards over -(j2k-cameratime)*speed +HGLN_CAMERA
- Tilt Camera



Placement camera

- Camera can be set from different objects: need to know HGLT_OBS and HGLN_OBS
- The time of the camera does not have to be the same as the time of the image. This allows to see the image of today as it will be seen tomorrow at e.g. Venus.

Why?

- Automatic co-rotation of objects attached to the sun

- If images of several hours back in time are overlaid with recent image, they blend (approximately) at the right location.

- If e.g. field lines (low cadence) are plot with the same strategy, they automatically co-rotate.

Camera modes

- Observer
- Earth
- Expert

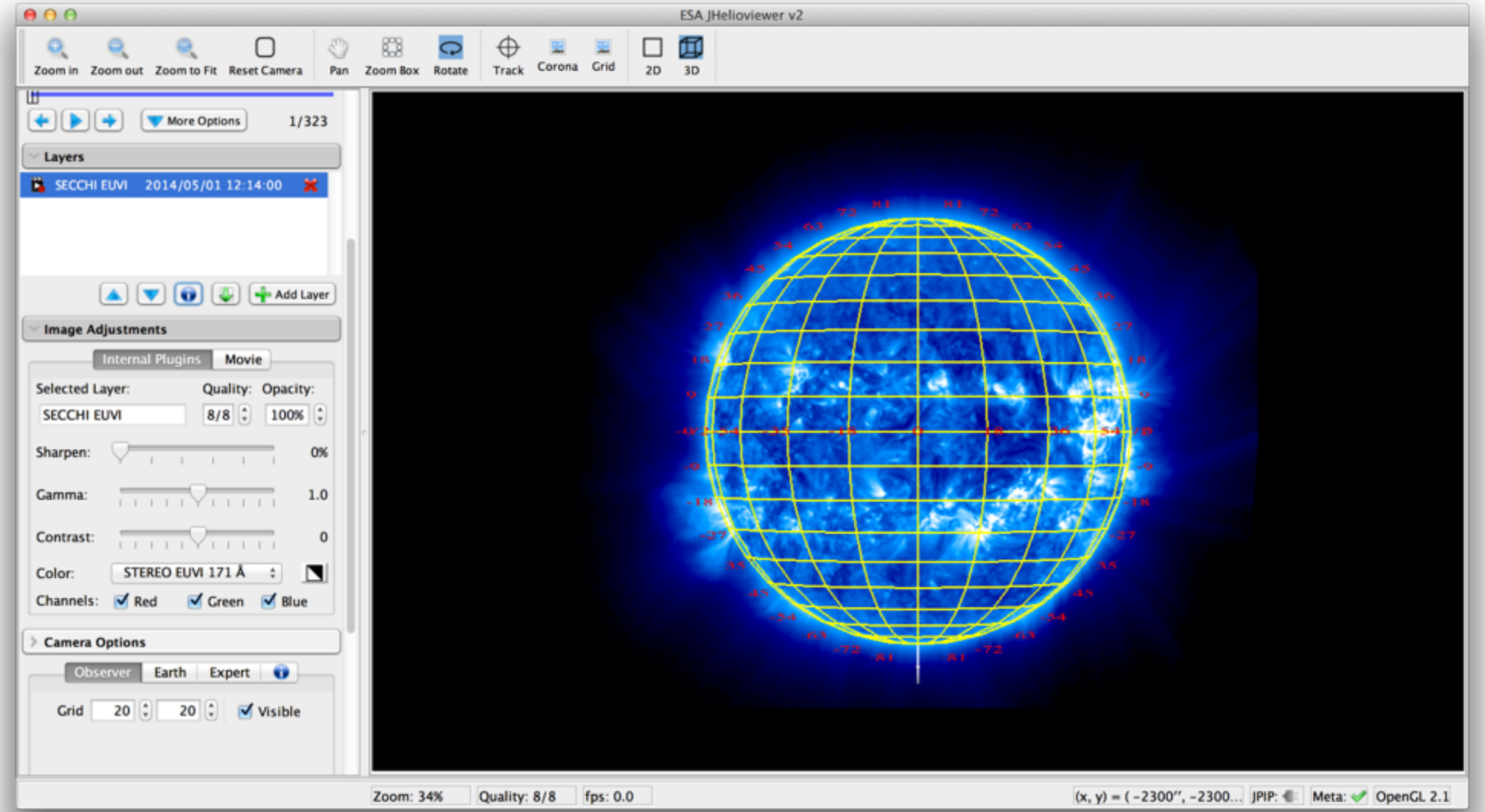
Camera mode: Observer

- Camera follows the timestamp and location of the current image of the active layer.

- Additional display of grid possible, projected as seen from the current observer.

- Relative rotations and zooming possible from the current viewpoint. Reset with reset camera.

Camera mode: Observer



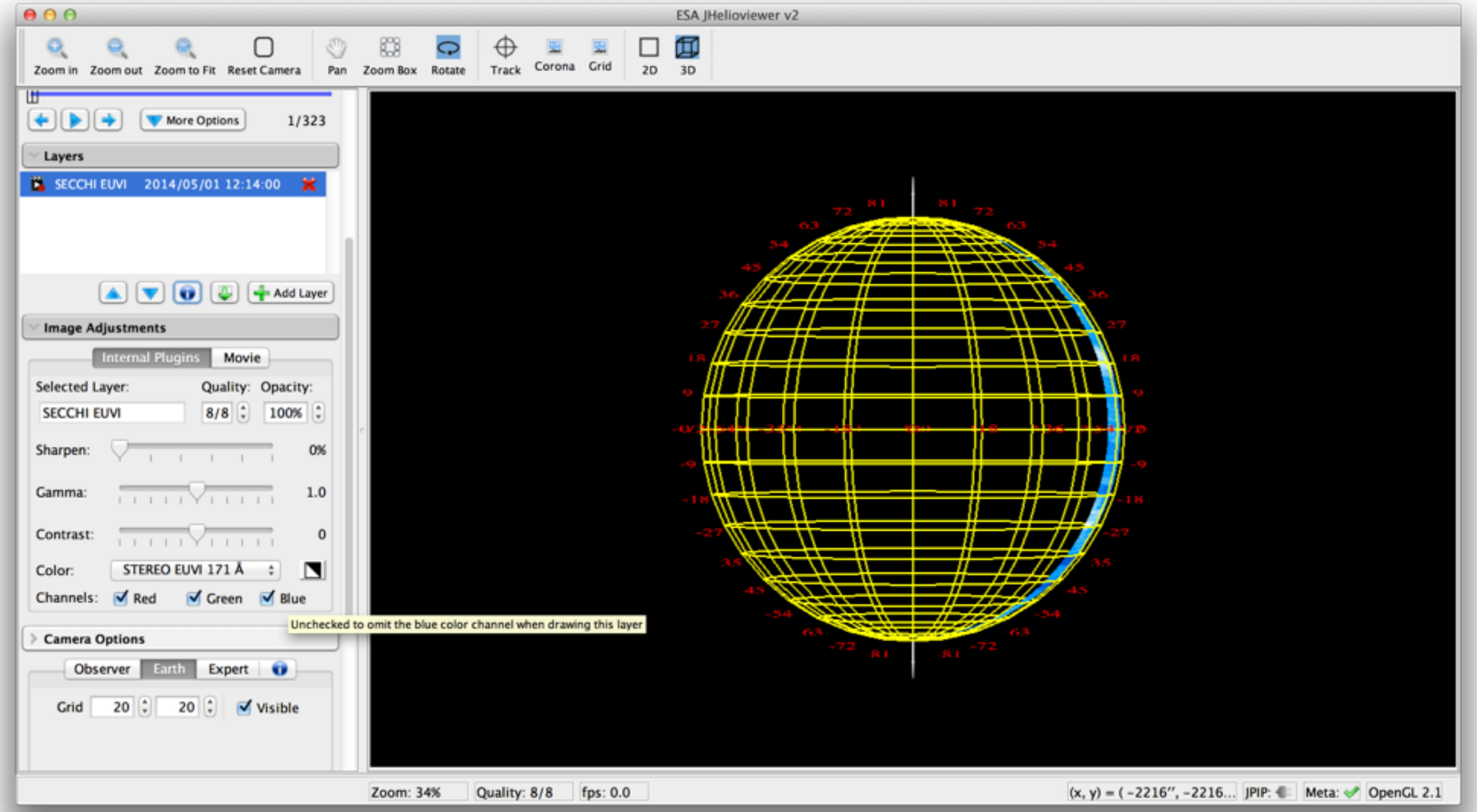
Camera mode: Earth

- Camera follows the timestamp of current image and location of earth at given time.

- Additional grid possible, projected from the current observer.

- Relative rotations and zooming possible from the current viewpoint. Reset with reset camera.

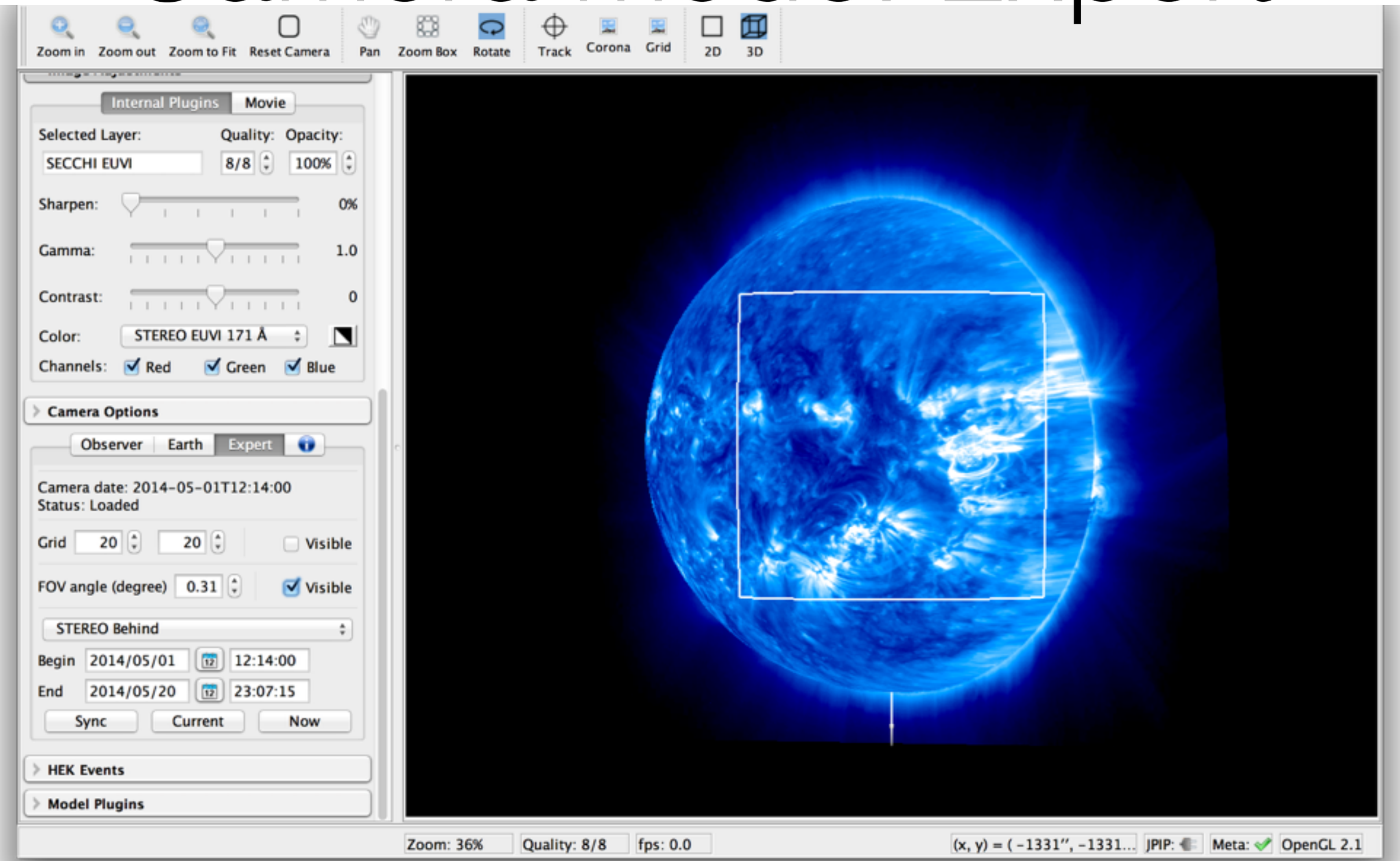
Camera mode: Earth



Camera mode: Expert

- Camera follows the timestamp interpolated between the date range of the active layer and the chosen date range (by default those are the same).
- Hotkeys to set date range.
- Possible to choose a target.

Camera mode: Expert



Camera mode: Expert (FOV)

- Possible to set the FOV angle from the current observer at the given time range.
- Projects the FOV rectangle on the current sun.
- E.g. project images 4 days in the future to see how the FOV of a given instrument would look.