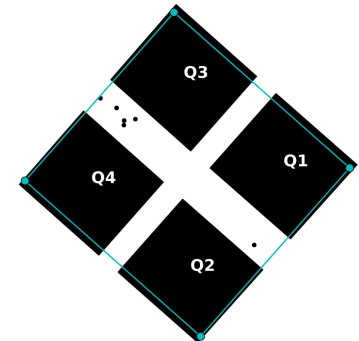
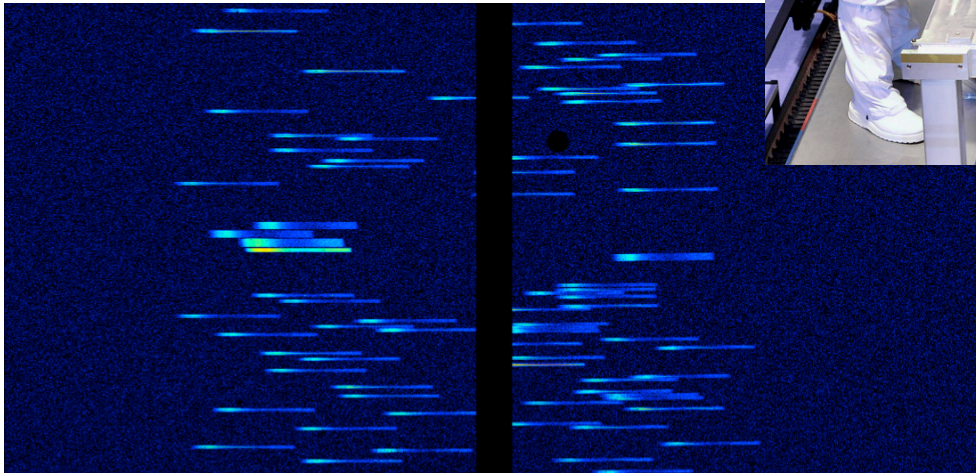
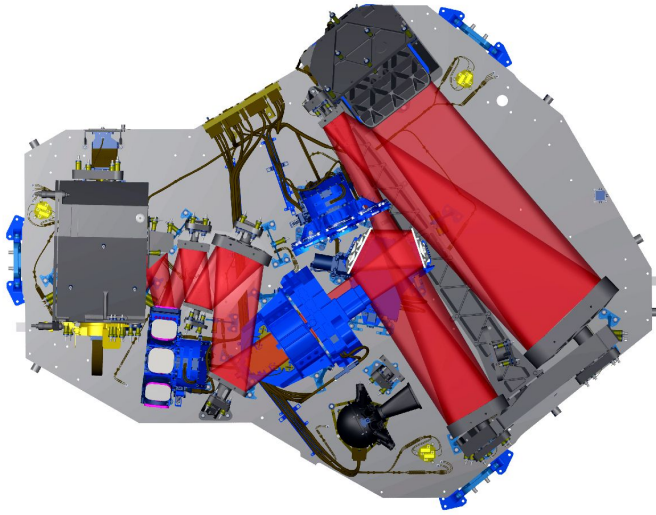




# NIRSpec status

James Webb Space Telescope



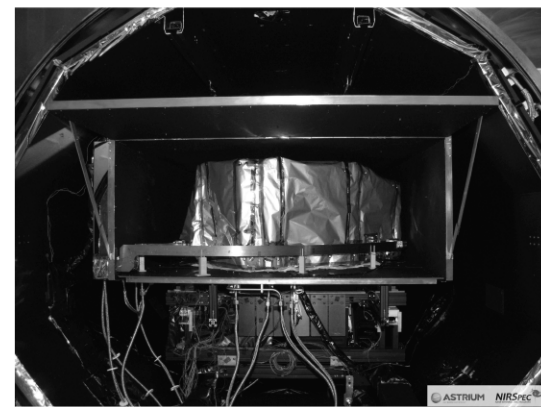
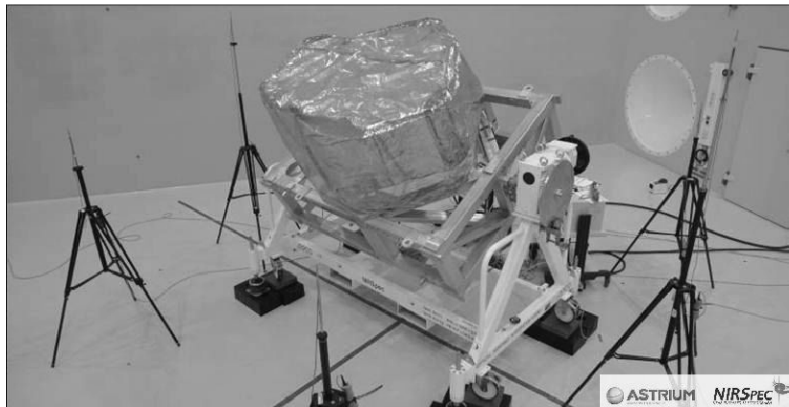
# 2011 - integration and testing of FM1

- In early 2011, the integration of NIRSpec flight model #1 was completed.



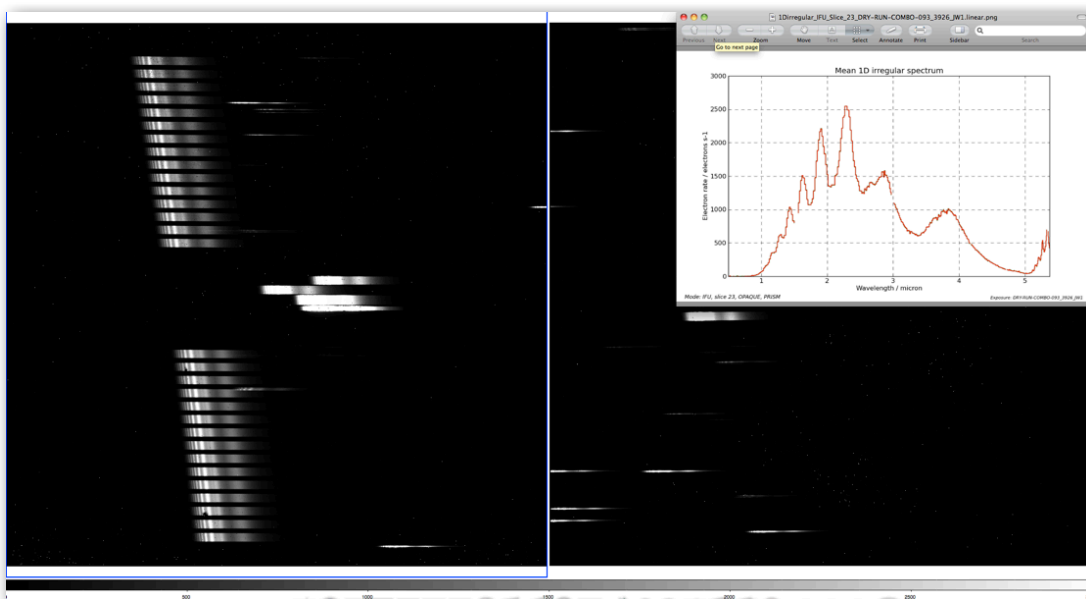
# 2011 - integration and testing of FM1

- NIRSpec FM1 underwent extensive testing: vibration and acoustic testing; cryogenic test campaign.



# 2011 - integration and testing of FM1

- During the cryogenic testing of FM1 it was not possible to operate the MSA so only IFU and SLIT mode exposures were obtained.
- But this was enough to learn a lot of things about the instrument behaviour and performances.



- Good alignment.
- Everything was where it was supposed to be....
- Good optical performances.
- Sharp images and spectra.
- And of course a few things to fix.



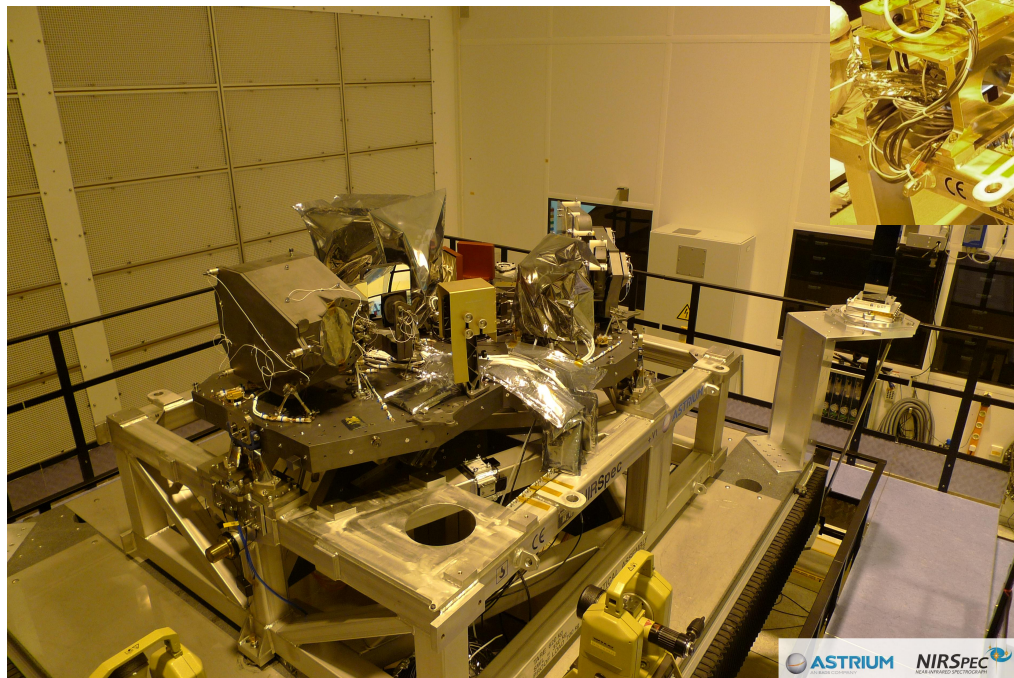
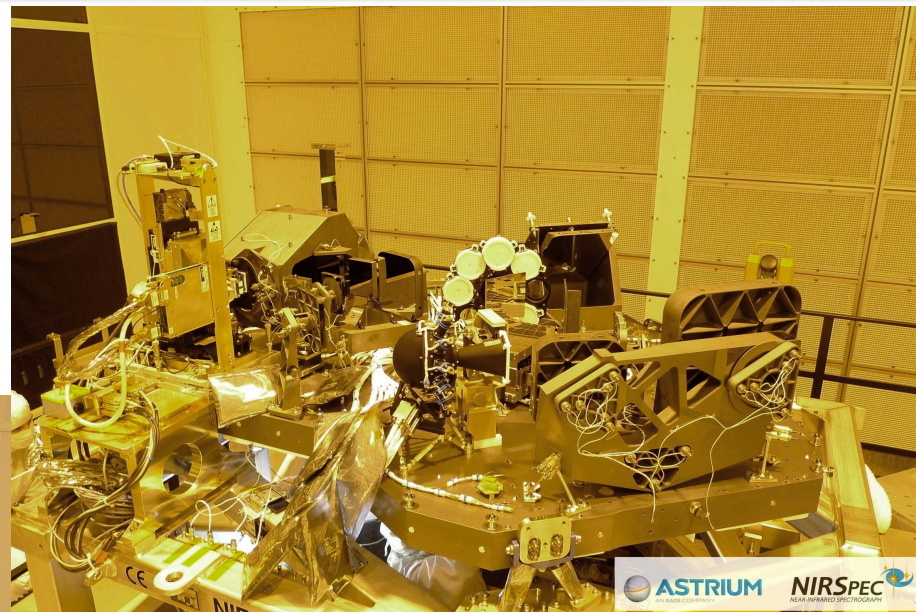
# From mid-2011 to present: preparation and integration of FM2

- However, after FM1 testing it was necessary to refurbish the instrument.
  - Quality problems with the FM1 optical bench.
  - Contamination issues (extreme sensitivity of the micro-shutter array to the presence of particles and fibers).
    - ➔ All flight sub-assemblies were removed from the bench and cleaned.
    - ➔ The flight spare bench (FM2) was prepared to receive all the flight sub-assemblies.
    - ➔ Integration of NIRSpec FM2 started!



# From mid-2011 to present: preparation and integration of FM2

Most sub-assemblies have now been integrated on the FM2 bench.  
Remaining: detectors (on-going), grating wheel and cover.



very soon!





# Next steps...

- Mid-November, we will start the main NIRSpec level cryogenic test campaign.
    - Almost one month of characterisation and calibration.
    - This time we will be able to test all NIRSpec modes.
  - This campaign will be followed by vibration and acoustic testing and a very short cryogenic test (sanity check!).
- ➔ **The delivery of NIRSpec to NASA is planned for mid-2013! We are getting close!**