

Calibrator models and observations

Splinter summary

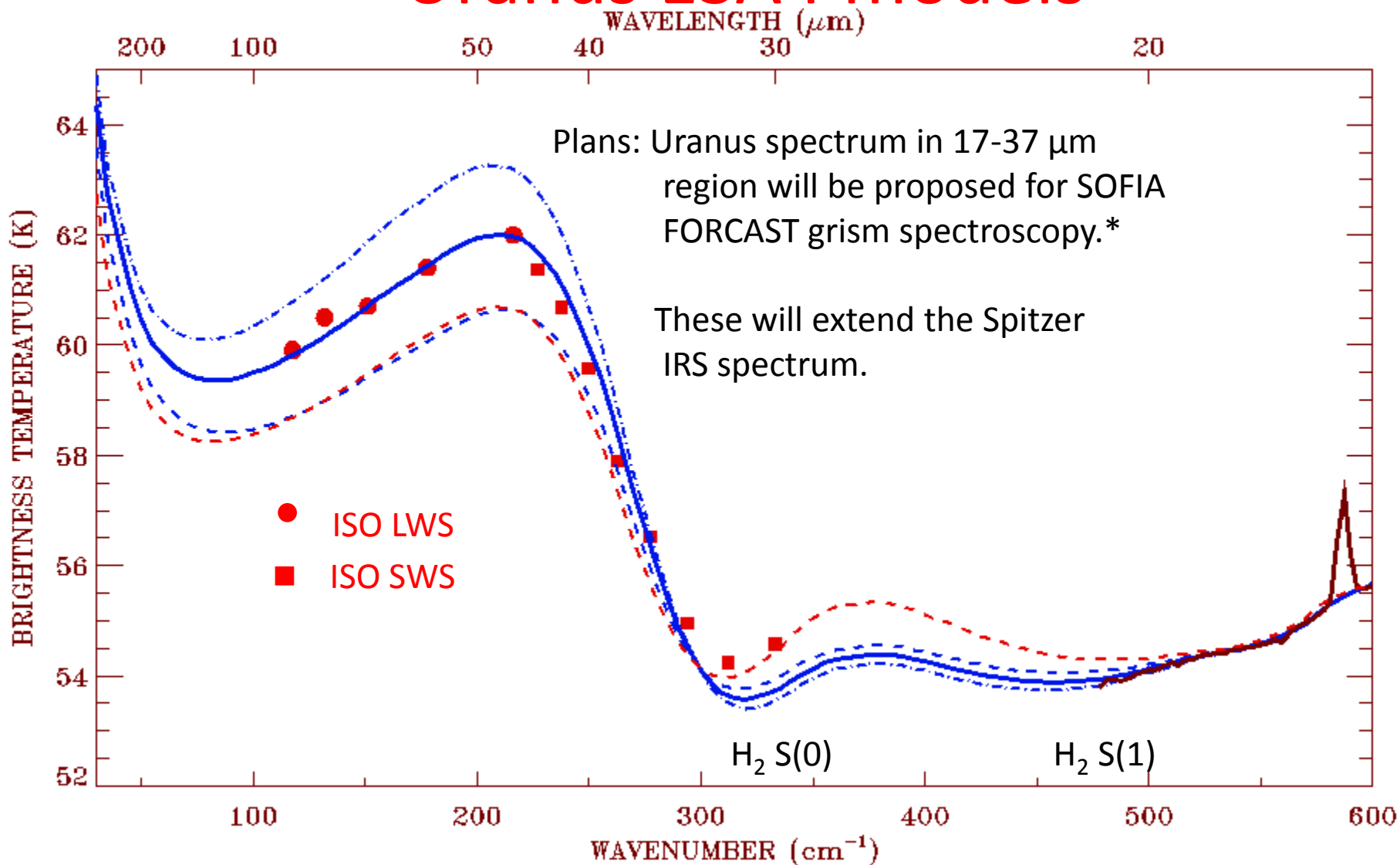
- Stars
- Planets

STARS

- Stars are used as reference calibration for PACS-Photometry, and monitored with SPIRE (but Neptune ESA2 is currently used as reference)
- Avoid star with FIR excess
- Decin's model $\sim 5\%$ absolute
- Average of 5 fiducial stars \rightarrow statistical uncertainty of 2-3% (PACS)
- Ratio of Cohen/Decin models = 5-10% in the SPIRE range
- No expected progress in the models

Planets

Uranus ESA4 models



G. Orton

Uranus ESA4 models

G. Orton and R. Moreno qualitatively agree with the new Uranus models proposed by G. Orton (more accurate)

Supported also by the new HIFI measurements

Need to cross-check the new models between Orton/Moreno (run models computations with the same input parameters), in order to estimate absolute uncertainty (expected $< 3\%$)

Uranus ES4 model will be also tested with

--SPIRE (B. Swinyard), and also re-process all calibration data (R. Hopwood)

-- PACS

Expected Uranus ESA4 Model delivery: 1 month before for the next HcalSG meeting. (Freeze date for HIPE 9 ?)

Neptune ESA4 models

G. Orton and R. Moreno start to converge, but need some additional analysis work on Spitzer, and on SPIRE/CO + HIFI measurements.

After testing the Uranus ESA4 models by SPIRE, accurate measurements constrain should be obtained on Neptune

The new Neptune continuum model ESA4 have to satisfy all the constraint (SPITZER,ISO,HERSCHEL,...). Absolute uncertainty expected < 3%

Cross-check the final new models between Orton/Moreno (run models computations with the same input parameters) in order to estimate absolute uncertainty.

Neptune ES4 model will be also tested with

--SPIRE spectroscopy (B. Swinyard), and also re-process all calibration data (R. Hopwood)

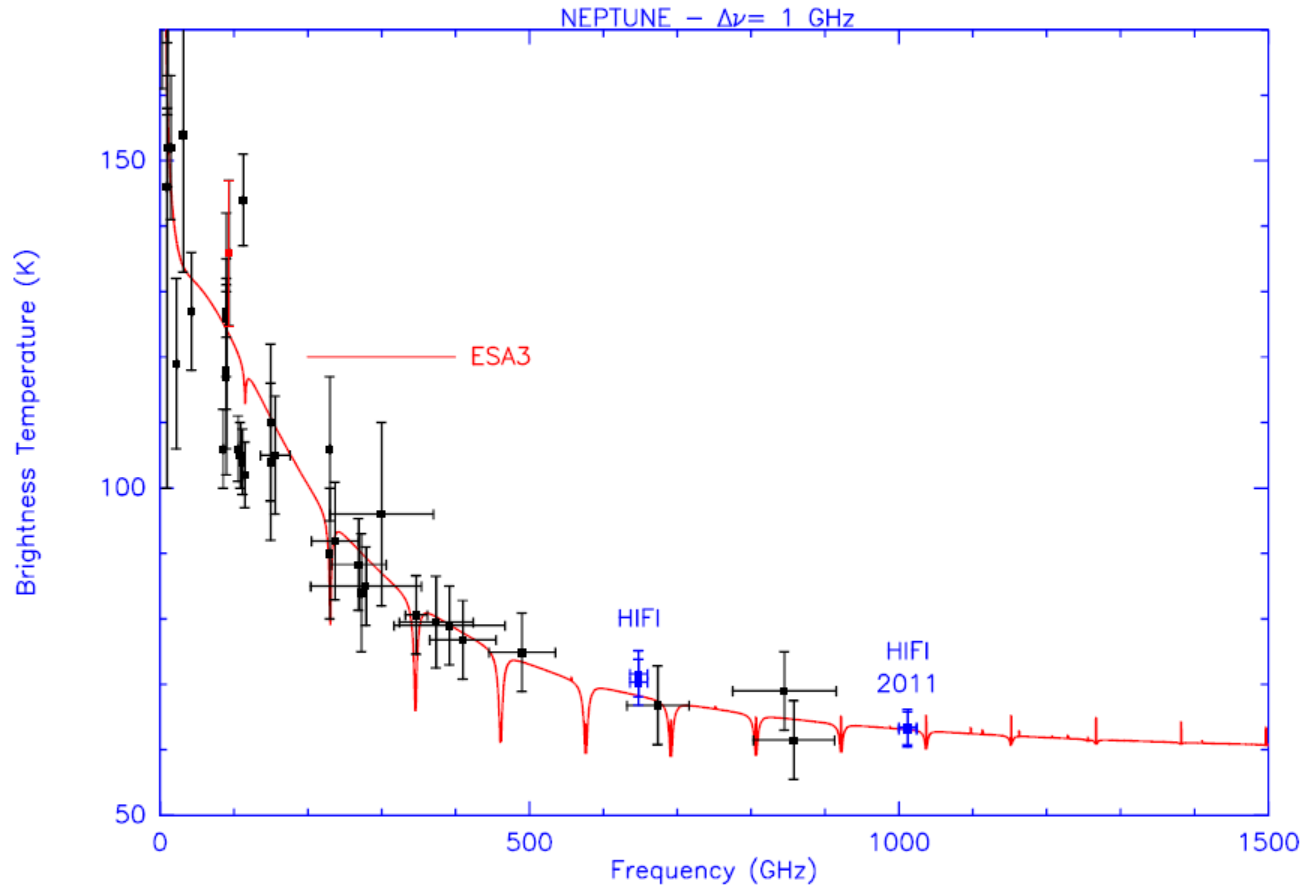
--SPIRE Photometry (T. Lim)

--PACS (should not vary significantly)

Expected Neptune ESA4 Model delivery: after Uranus ESA4.

In the best case also for the next HcalSG meeting.

HIFI/SPIRE Planet cross-calibration Measurements



HIFI : Accurate measurements in the 500-1000 GHz
→ Herschel Legacy

HIFI/SPIRE Planet cross-calibration Measurements

- Current measurements, need to check the accuracy as function of the exact beam pattern
 - Need additional HIFI/SPIRE Cross-calibration measurements on Uranus and Neptune calibrated on Mars (< 18 hours)
In order to check the measurements reproducibility/stability with time between 500-1000 GHz.
 - Optimal epoch : 2012-May-29 – 2012-Jun-13 (Last observability period)
 - Add more constrains to the calibration models used (ESA4).
- ➔ Herschel calibration Legacy of planets
- Origin of the calibration time ?

Other planets calibration measurements

PACS-Photometry :

- Titan scan map observation in preparation (< 0.5 H)
- Callisto/Ganymede recently observed

- Prepare futur planet measurements with ground based facilities ALMA,SMA,IRAM, Other ?