

**From:** Franck Marchis [mailto:fmarchis@berkeley.edu]  
**Sent:** Friday, March 10, 2006 7:55 AM  
**To:** Franck Marchis; Keith Noll; Mate Adamkovics; Antonin Bouchez; Joshua Emery  
**Cc:** Peter Wizinowich; Claire Max; Michael Liu  
**Subject:** [KNGAO]-Solar System - new PSF, progress, FIRST images! - reminder for next telecon

Dear KNGAO-Solar System,

**PSF:**

A new set of PSFs generated by Rich from TSIS is now available.

They are available on the NGAO web site (you may consider to bookmark this webpage :-))

<http://www2.keck.hawaii.edu/optics/ScienceCase/index.htm>

see in Products

[Explanation of PSF Files \(3/7/06\)](#)

[Link to PSF Directories on ftp site](#)

Here a brief report of the progress made recently per science cases.

- **B.1** Titan image are generated & convolved to simulate different instruments and wavelength of observations.

You can see the images on

Based on simulated consideration the SSI albedo map in visible + low altitude haze and convolved using NFAO-no tip-tilt blurring PSF (Mate & Franck)

see for instance preliminary result (no noise added yet)

\* comparison Keck NGS, Keck XAOPI (PSF from Bruce), Keck NFAO

[http://astron.berkeley.edu/~fmarchis/document/KNGAO/Titan/simu\\_titanH\\_OA.jpg](http://astron.berkeley.edu/~fmarchis/document/KNGAO/Titan/simu_titanH_OA.jpg)

\* Titan surface observed in several wavelength (at  $\lambda < 0.75 \mu\text{m}$  the surface cannot be seen)

[http://astron.berkeley.edu/~fmarchis/document/KNGAO/Titan/simu\\_titan\\_NGAO.jpg](http://astron.berkeley.edu/~fmarchis/document/KNGAO/Titan/simu_titan_NGAO.jpg)

\* comparison HST/ACS-HRC vs KNGAO in R band

[http://astron.berkeley.edu/~fmarchis/document/KNGAO/Titan/simu\\_titan\\_compHST.jpg](http://astron.berkeley.edu/~fmarchis/document/KNGAO/Titan/simu_titan_compHST.jpg)

- **B.2** Io image in sunlit is also ready (Franck)

preliminary result (no noise)

\* Io observed in visible and NIR with KNGAO

[http://astron.berkeley.edu/~fmarchis/document/KNGAO/Io/simu\\_io\\_NGAO.jpg](http://astron.berkeley.edu/~fmarchis/document/KNGAO/Io/simu_io_NGAO.jpg)

\* comparison with HST in R band

[http://astron.berkeley.edu/~fmarchis/document/KNGAO/Io/simu\\_io\\_compHST.jpg](http://astron.berkeley.edu/~fmarchis/document/KNGAO/Io/simu_io_compHST.jpg)

- **A.1** Sylvia multiple system is in progress (Franck)

the orbital element of the moons are set. Movie simulating the system is available

<http://astron.berkeley.edu/~fmarchis/document/KNGAO/SylviaProject/>

The images considering also NFAO-no tip-tilt should be available shortly (next week)

- **A.2** 2003EL61 and its 2 moons (Antonin)

Peter W. suggested to use NFAO with 8 mas blurring to simulate a 17-18 mag target.

**For A.3**

I requested to have the SR and FWHM of NFAO PSF together in a table to simplify this task.

Peter, We need to better know the relation between residual blurring <-> magnitude.

something like

mv < 16 - no blurring  
16 < mv < 18 - 8 mas  
18 < mv < 19 - 15 mas  
mv > 19 - 25 mas

For A.4  
we need to image... in progress

For B.3  
inputs are welcome....

As a reminder, we have our 4th telecon scheduled on Wednesday March 15 at 10am PST. Please, make sure to attend this one, since it will be crucial to discuss what we need to have done before the workshop.

Have a great weekend,

Regards  
F.

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