

=== Tianlai simulation working group meeting (SimuWG) (13 June 2013) ===

Participants: R. Ansari, J.E. Campagne, Yichao LI, C. Magneville, Feng Quan, Thomas Stucky, P.Timbie, A.S Torrento, Xin Wang, Yidong Xu, Jiao Zhang

A- Forecasting for 21 cm experiments, (Xin Wang)

Forecasting instrument sensitivity to determine power spectrum, working in the visibility space and using Fisher matrix. See note.

X. Wang will try to apply his method to compute the instrument sensitivity for the Tianlai reference configurations, involving F. Quan and Yichao Li in his work.

B- SimLSS and other tools for simulations (C. Magneville)

Presentation of some of the tools developed in France for simulating the 21 cm cosmological signals and foregrounds. See slides (sky_sim_tools_magneville.pdf)

C- Instrument reference configurations (R. Ansari)

Discussion of the reference configurations (16 dishes, 3 cylinders) for Tianlai.

See slides : simuWG_instrum_conf.pdf (Simulation overview and array configurations)

D- Sky reconstruction from visibilities (Jiao Zhang)

short progress report on sky reconstruction (sky Fourier components) from visibilities using a linear system approach - see slides matrix_jiao.pdf

E- Use of CASA for Tianlai Simulations (Thomas Stucky)

During his 10 week internship at the University of Wisconsin-Madison, Thomas Stucky (stuckyatpc@gmail.com) will be using CASA (<http://casa.nrao.edu>) to simulate a variety of arrangements for the Tianlai interferometer. Starting with dish array configuration and then extending it to observations with cylinders. The aim will be to find the configuration which optimize the visibility sampling.

F- Feed+reflector response (P. Timbie)

The feed-antenna working group, led by P. Timbie will provide analytical or numerical representation of the individual feed+reflector beam, both for the cylinder and the dish configurations. In the case of cylinders, the response for individual receiver, and the one obtained from an analog sum of 4 receivers are needed.