

Tianlai preparation working groups

May 2013

Tentative list of names - Need to be completed and confirmed -

1. Science

aim: Strengthen the science case by going beyond the BAO case.

Xuelei Chen, Yidong Xu, Albert Stebbins, J.M.Martin...

2. Antennae (Reflectors and feeds)

Comparison of dish and cylinders. Specify the optical and mechanical configuration and parameters of the antennae

P. Timbie, Le Zhang, J. Peterson, Ue-Li Pen, ...

Prof. Huli SHI (NAOC) shl@bao.ac.cn

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Prof. Zhiping Chen (Hangzhou) chen_zp@hdu.edu.cn

Dr. Juyong Zhang (Hangzhou) zhang_juyong01@163.com

Mr. Tao Liu (Hangzhou) lt.antenna@gmail.com

3. Electronics

Review the overall system design and technical choices. LNA & analog electronic, signal transmission, digitization, digital filtering (time FFT ...), visibility calculator

J. Peterson, C. Magneville, D. Charlet, Fengquan Wu ...

4. Simulations & forecast

- Simulations-I

21 cm signal sky and foregrounds (Use existing or develop tools)

Instrument response computation, assuming calibration done

3D sky map reconstruction tools from calibrated / cleaned visibilities

- Simulations-2

Power spectrum computation, foreground removal, BAO signal forecasts

R. Ansari, X. Chen, Ue-Li Pen, Xin Wang, Yan Gong, Jiao Zhang, Le Zhang, Yichao Li

...

5. Calibration & RFI removal

overall gain & phase calibration strategy for the survey (electronic signal injection, artificial source, sky)

RFI cleaning method for level 1 (on-line) processing.

Calibration & RFI cleaning for level 2

J.E. Campagne, C. Magneville, J. Marriner, Ue-Li Pen, P. Colom ...

6. Data processing & software

Computing & storage infrastructure for offline processing

J. Marriner, R. Ansari ...