

Tianlai Experiment White Paper Outline

I. Science Goals

- HI science $0 < z < 3$
- transients?

II. Strategy

- test dish vs cylinder approaches
- Pathfinders --> Pathfinders + --> Full Array
- low-z survey --> high-z survey

III. Dish Array

IV. Cylinder Array

V. Analog electronics

- feeds
- LNAs
- RF over fiber

VI. Correlators

- DSP
- CASPER
- GPU?

VII. Site

- RFI surveys
- map
- infrastructure

VIII. Observing Strategy

A. Dish Array

- deep NCP integration at low-z
- deep NCP integration at high-z
- overlap with optical surveys?
- wide survey at low-z
- wide survey at high-z

B. Cylinder Array

- wide survey, low z
- wide survey, high z

IX. Analysis Plans & Tools

- Jiao Zhang et al 1606.03090, 1606.03830

X. Forecasts

- Xu, Wang, Chen 1410.7794
- Xu, Hamann, Chen 1607.00817

XI. Collaboration

XII. Status

- pictures from Xinjiang

Acknowledgements

References