

2018 Workshop on

Tremendous Radio Arrays

Hosted at Brookhaven National Laboratory
July 30-August 1, 2018



- Many talks to be posted: <https://www.bnl.gov/tra2018/>
- Whitepaper about proposed “Stage 2” HI array
 - $2 < z < 6$
 - 65,000 dishes

Day 1

Overview of the 21cm intensity mapping	Tzu-Ching Chang
Status of CHIME	Seth Siegel
Status of HIRAX	Ben Saliwanchik
Status of EoR experiments	Adrian Liu
EDGES result	Raul Monsalve
Status of TianLai	Peter Timbie
Status of BINGO - new site in Brazil, going ahead	Carlos Alexandre Wuensche, Michael Peel
Advances in Data reduction and Foreground Cleaning Techniques	Johnny Pober
Design and analysis lessons from HERA	James Aguirre
Science case for $z < 6$ experiment(s) - overview of 'Stage 2' HI whitepaper	Emanuele Castorina
Cross-correlations, weak lensing and tidal reconstructions	Simon Foreman

Day 2

Beam calibration with drones

Yale group using same drone as Fengquan & Juyong

Ben Saliwanchik

Gain stability techniques

Kevin Bandura

The design and calibration of the 50-200 MHz receiver
and spectrometer for 21-cm observations with a single antenna

Alan Rogers

Advances in hardware for large-N correlators

Larry D'Addario

EPICal and FFT imaging

Adam Beardsley

Phased Array Feed/GBT

1400 MHz system works, forms 7 beams

Anish Roshi

FELIX and gFEX

Kai Chen

Brookhaven ATLAS group building trigger electronics similar to NEBULA board at LAL

RFI rejection (and FRB detection)

Kendrick Smith

Discussion of technology needs

'digitizing at the feed is just as challenging as transmitting analog signals on long lines'

Day 3

21-cm with Single Dish observations

Phil Bull

- interesting science at large scales (larger than BAO scale)
- no instruments are optimized to look there

Hydrodynamical simulations of neutral hydrogen

Francisco Villaescusa-Navarro

Science with Dark Ages experiments

Daan Meerburg

Complementary science: FRBs and pulsars

Albert Stebbins

CHIME FRB detection

Kendrick Smith

Discussion on Decadal Submission Strategy

- science white papers due January '19
- instrument white papers due later in '19