Some HERA Slides

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Hydrogen Epoch of Reionization Array

- 14m transit dish, 576 element array
- PAPER feed
- MWA-type node architecture
- Fast focus minimizes chromaticity
- Joint MWA - PAPER enterprise
- 0.1 km^2 (same collecting area as arecibo, 80x the survey speed)

http://reionization.org
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Imaging with HERA

Representative HI shells and HII holes detectable at SNR>10 after 100 hours

size of GOODS survey area

z = 8

http://loco.lab.asu.edu/danny_jacobs
HERA sensitivity to different models

for foregrounds ranging from pessimistic to optimistic

Poher et al 2013b

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antenna config: hex grid + outriggers

- complete coverage of uv plane to ~500\(\lambda\)
- deep coverage of centrally condensed core at brightest EoR modes
- redundant spacings for sky independent calibration
- outriggers double resolution at hex locations double radius of complete uv coverage
Dish design criteria:
reflection amplitude lower than 60dB above 60ns

VNA measurements of prototype HERA dish