EDGES and implications for space missions

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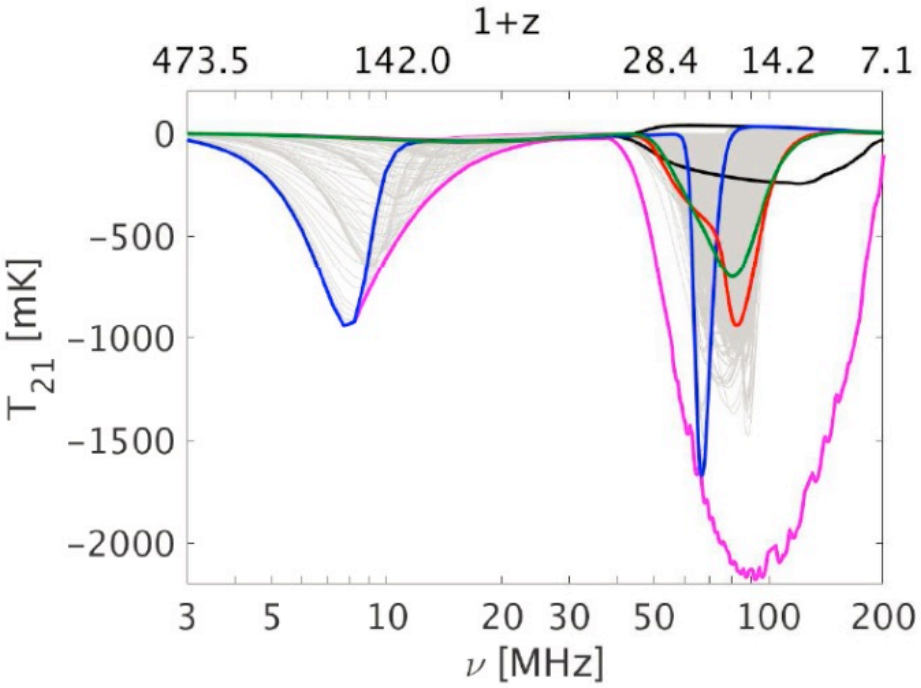
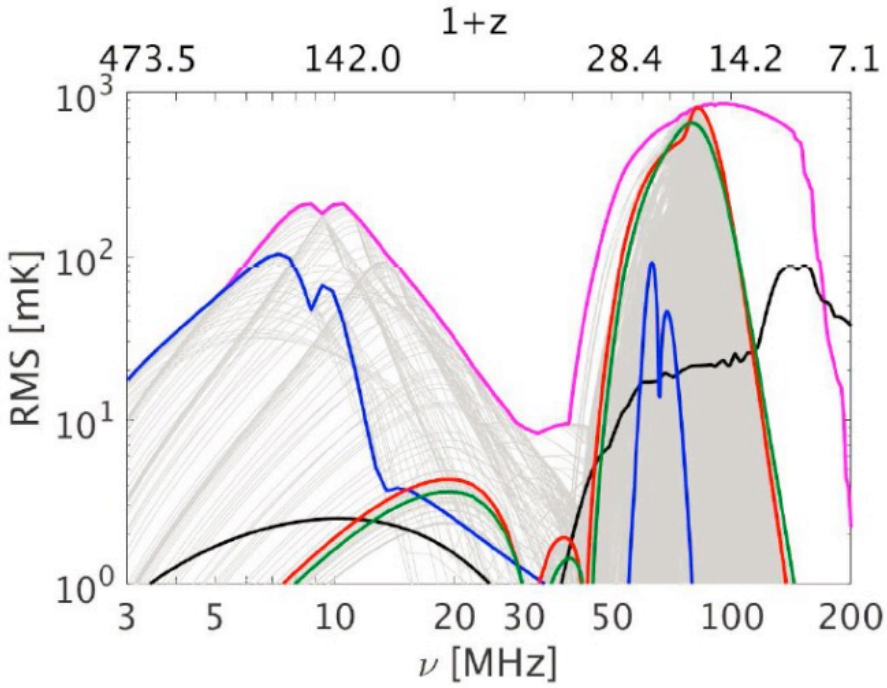
- **There is a signal – Great!**
  - Almost certainly a necessary precursor to justify space mission(s)
- **78 MHz is well above ionosphere cutoff – Neutral**
  - No need for space for detection and can probably do decent characterization of global signal from ground
  - Not clear how ionosphere will affect power spectrum efforts. If power spectrum from ground struggles:
    - Medium term: Global measurement in space would be valuable since minimum foreground nuisance
    - Long term: Power spectrum in space may be only option (I think unlikely)
- **Amplitude is larger – Good**
  - Stronger signal is easier to detect. Also stronger power spectrum.
- **New (astro)physics? – Great!**
  - More people are interested
  - Could be even more reason to look at Dark Ages (z~100), which certainly is not doable from the ground
- **What if EDGES is wrong? – OK**
  - Would probably still be a net win by raising profile and showing the measurement is realistically doable
  - (For the record… ongoing tests continue to be consistent with a signal from the sky)

Example 21 cm signal models

Global signal



Spatial fluctuations



Fialkov et al. 2018 (ArXiv:1802.10577)