



Mittleman Lab

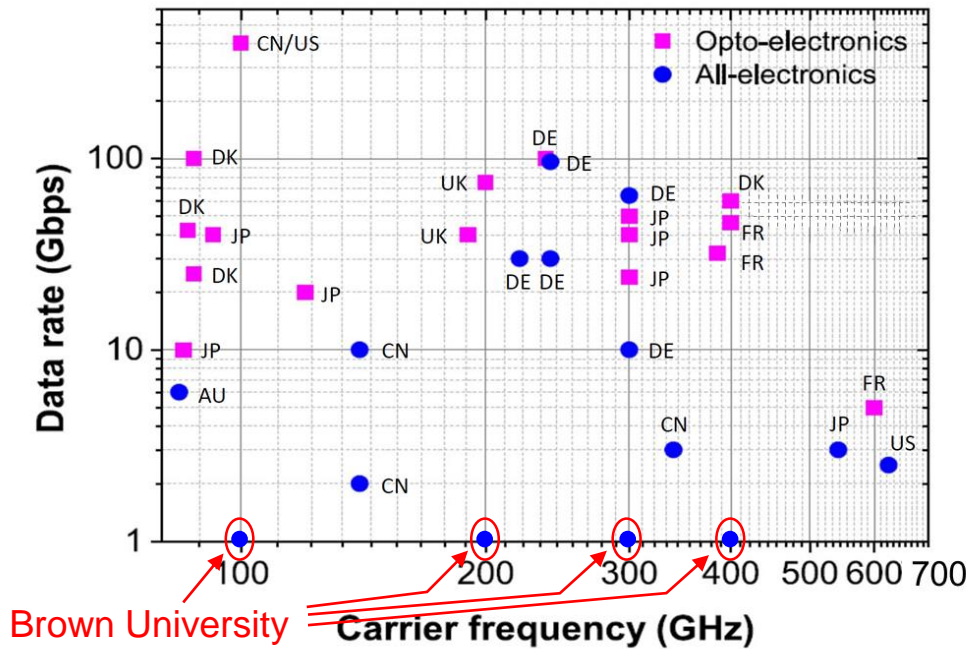
Some thoughts on terahertz wireless

Daniel Mittleman
School of Engineering
Brown University

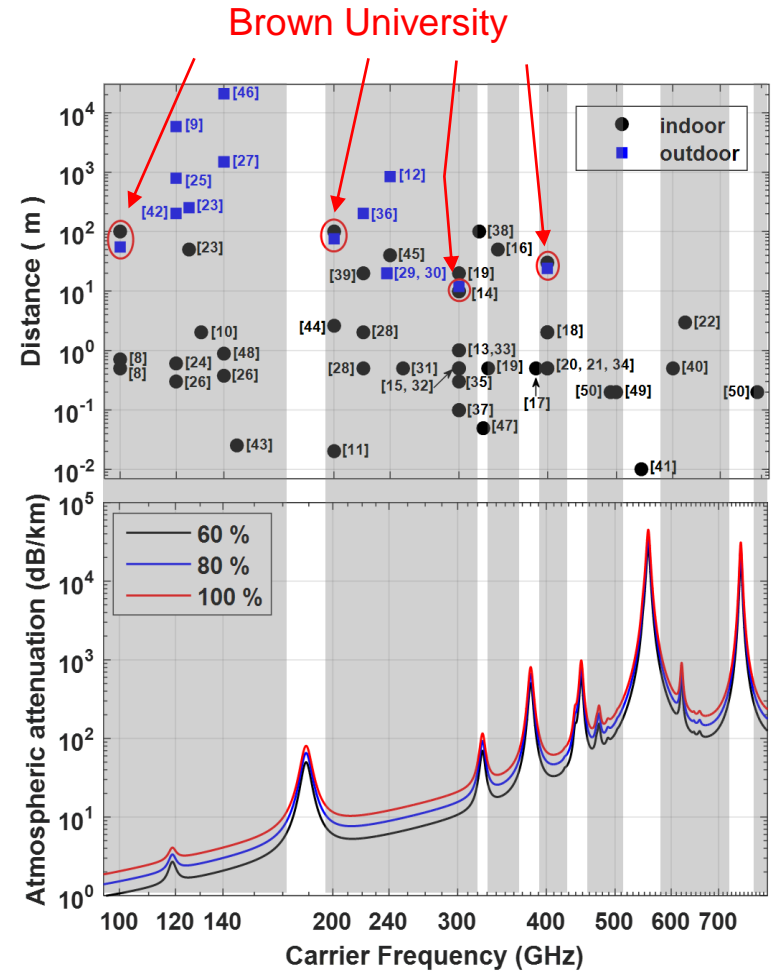


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Recent measurements of THz links



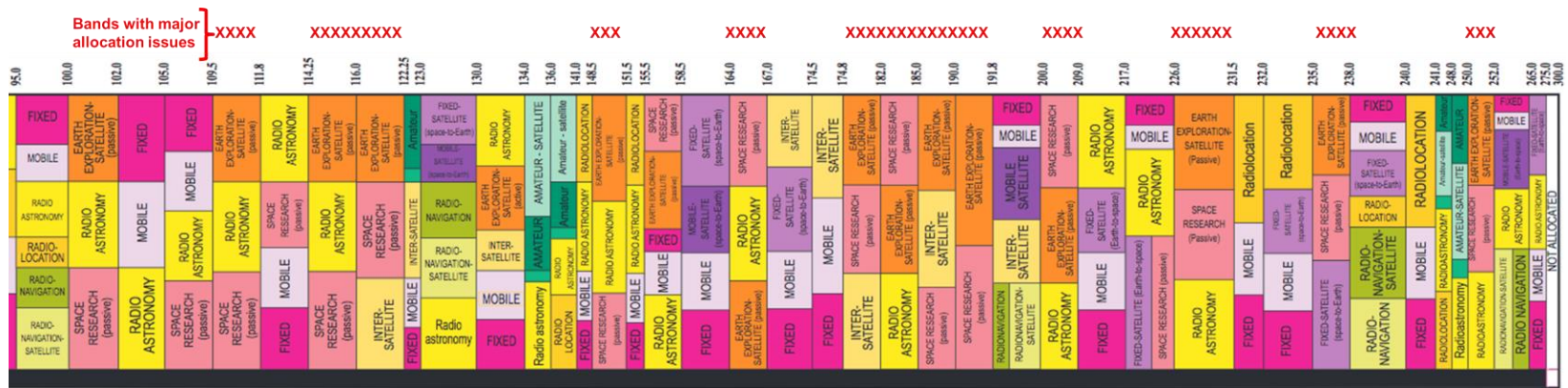
courtesy of Xianbin Yu, adapted from X. Yu, *et al.*, *IEEE Trans. THz Sci. Technol.* **6**, 765 (2016).



J. Ma, *et al.*, *APL Photonics*, **3**, 051601 (2018)

Spectrum sharing: crucial

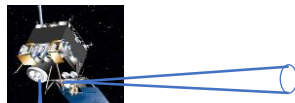
There is a lot of **balkanization** of spectrum above 95 GHz.



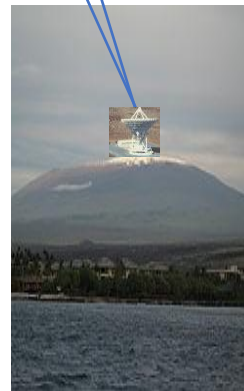
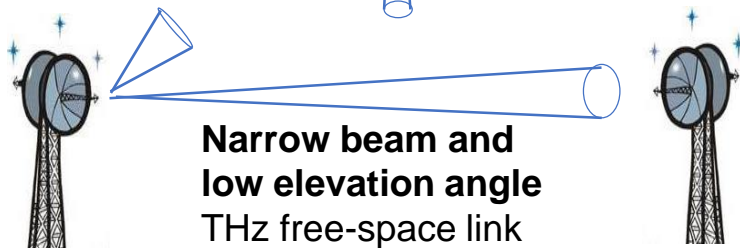
Regulatory mechanisms for sharing spectrum and avoiding interference do not yet exist.

They ought to be **very different** from those used at lower frequencies.

Earth-observing satellite



side lobe?

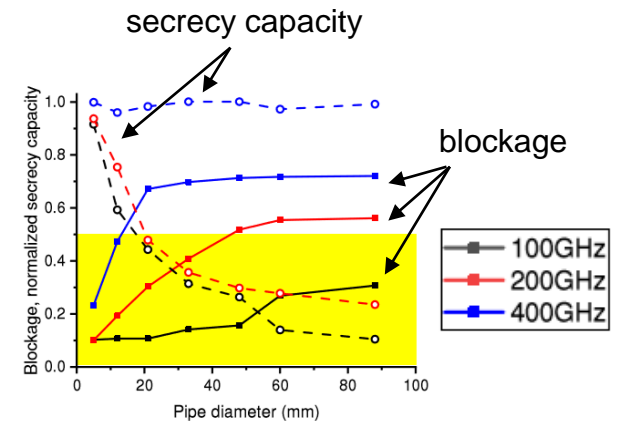
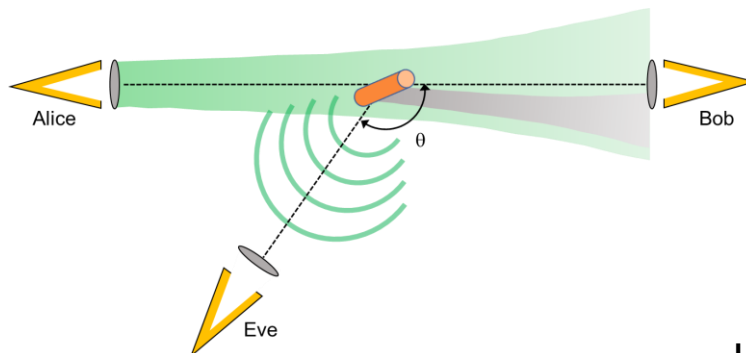


Mountaintop radio telescope

Test beds for >100 GHz?

- What would be useful?
- What would be feasible?
- How would they coordinate / not overlap too much?

An example: terahertz scattering/
eavesdropping test bed



J. Ma, et al., *Nature*, 563, 89-93 (2018)