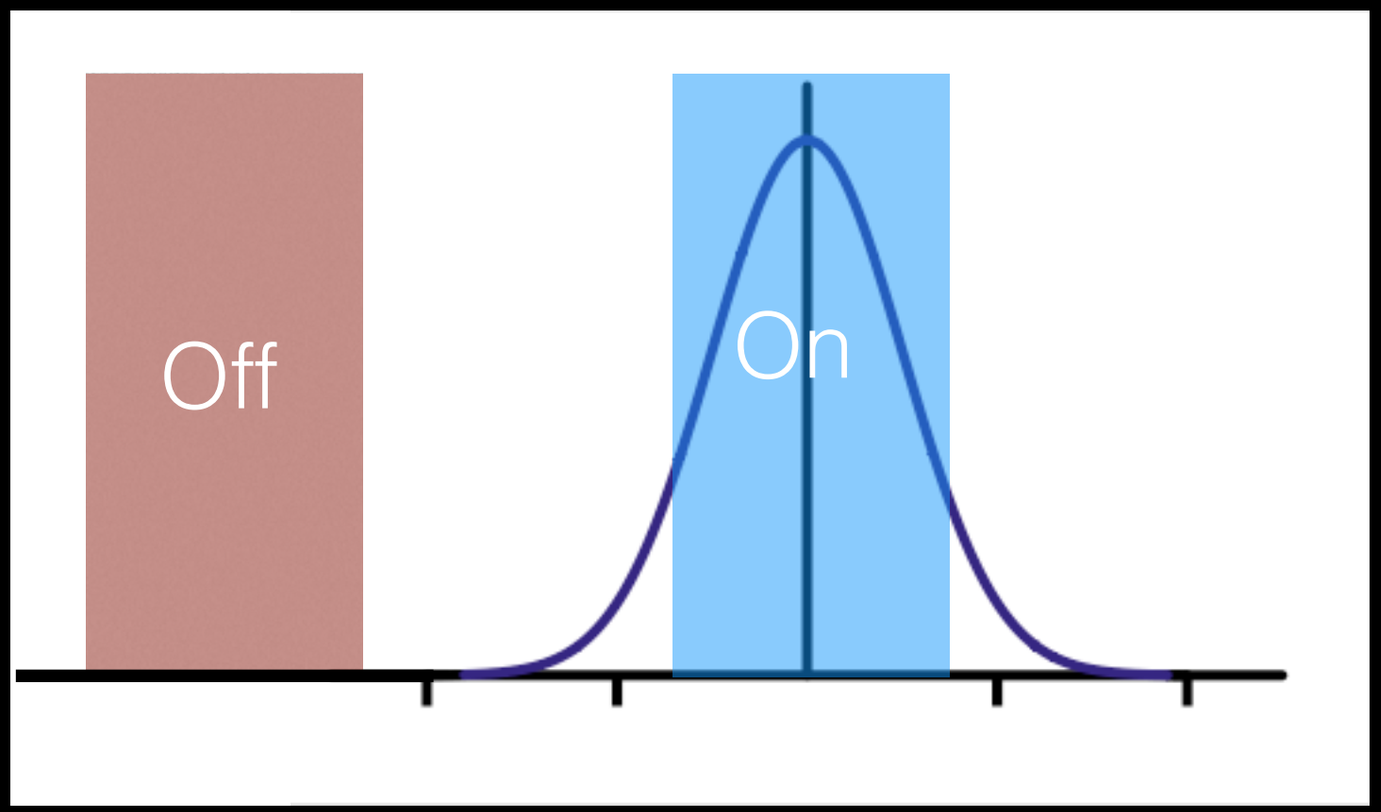
Eclipse Data

- Total Solar Eclipse 2015
- Fe^{10+} (FeXI) -1.1×10^6 K
- Fe^{13+} (FeXIV) -1.8×10^6 K

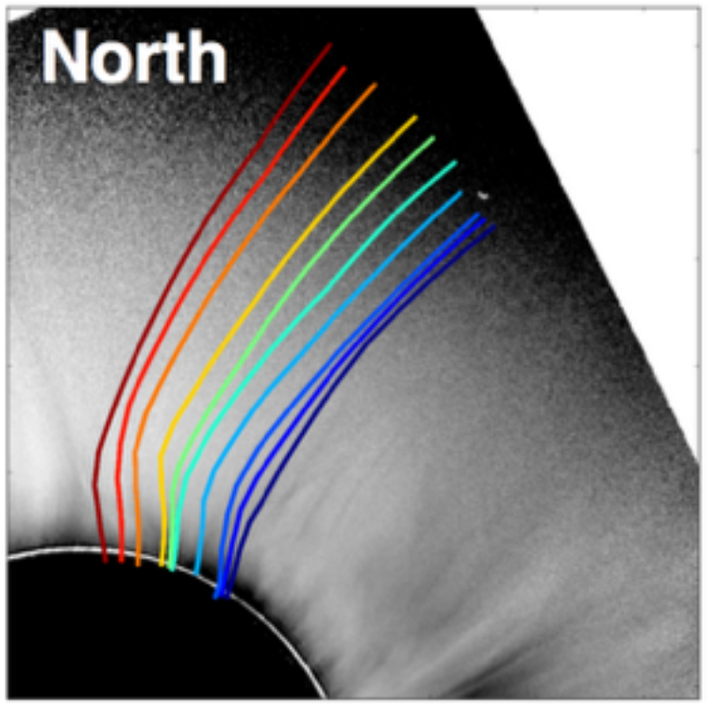
On/Off Band Ratio

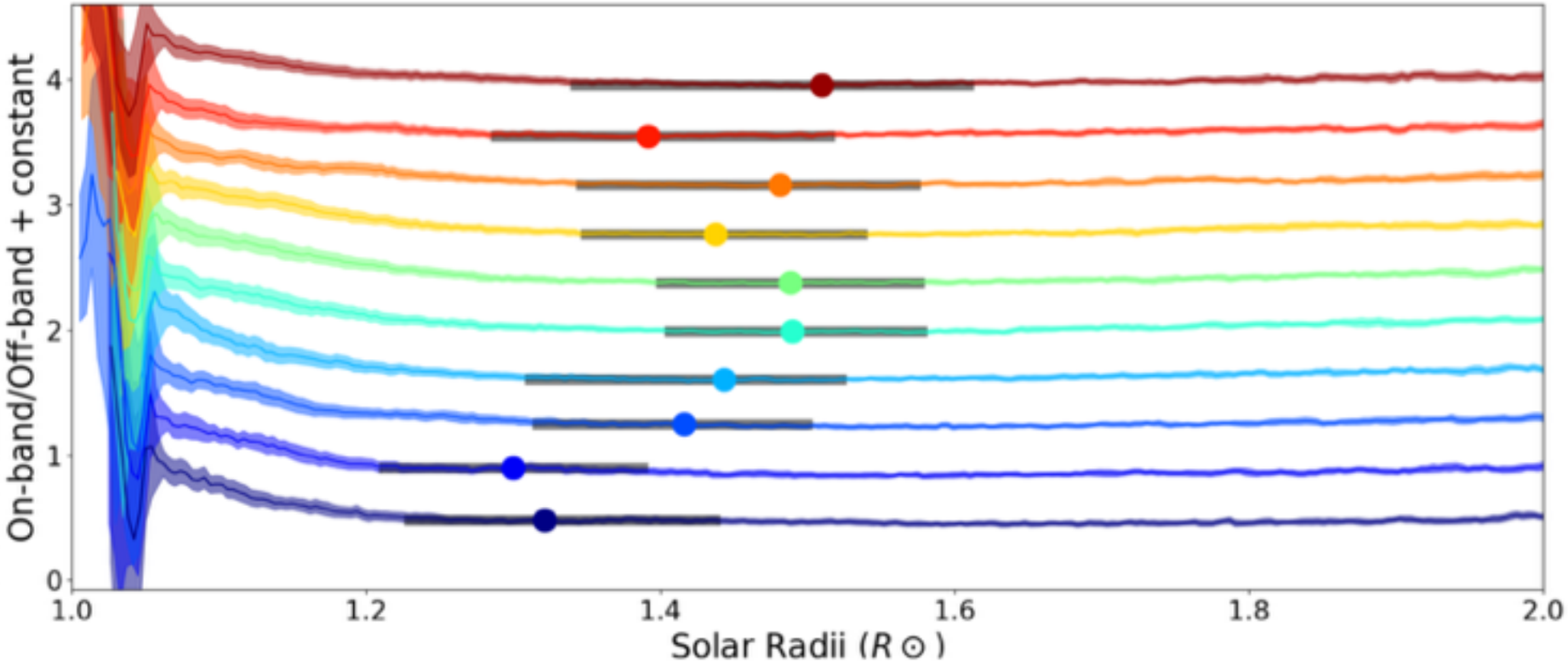
- “On-band” -> 5 Å band image on ion emission line
- “Off-band” -> 5 Å band image 10 Å away

- On-band ~ $n_i + n_e$
- Off-band ~ n_e
- (On-Off)/Off ~ n_i/n_e

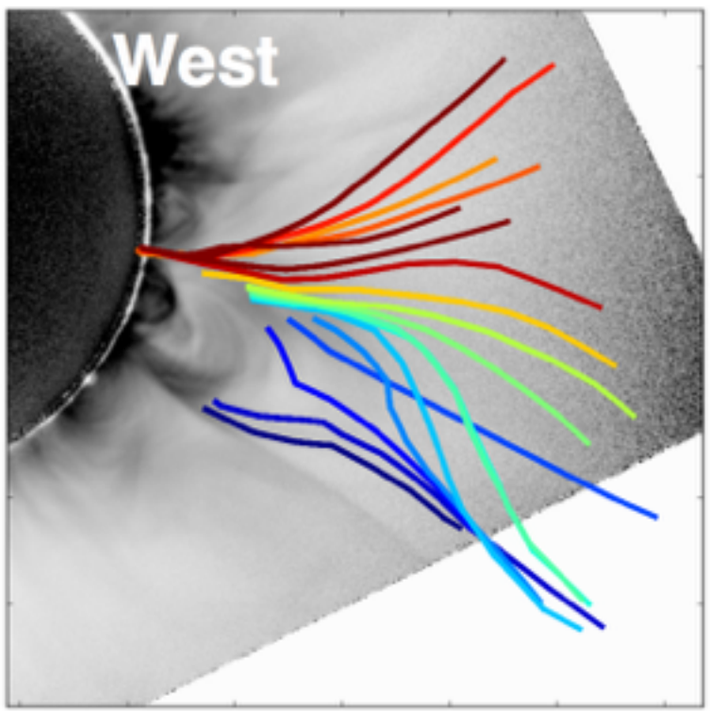


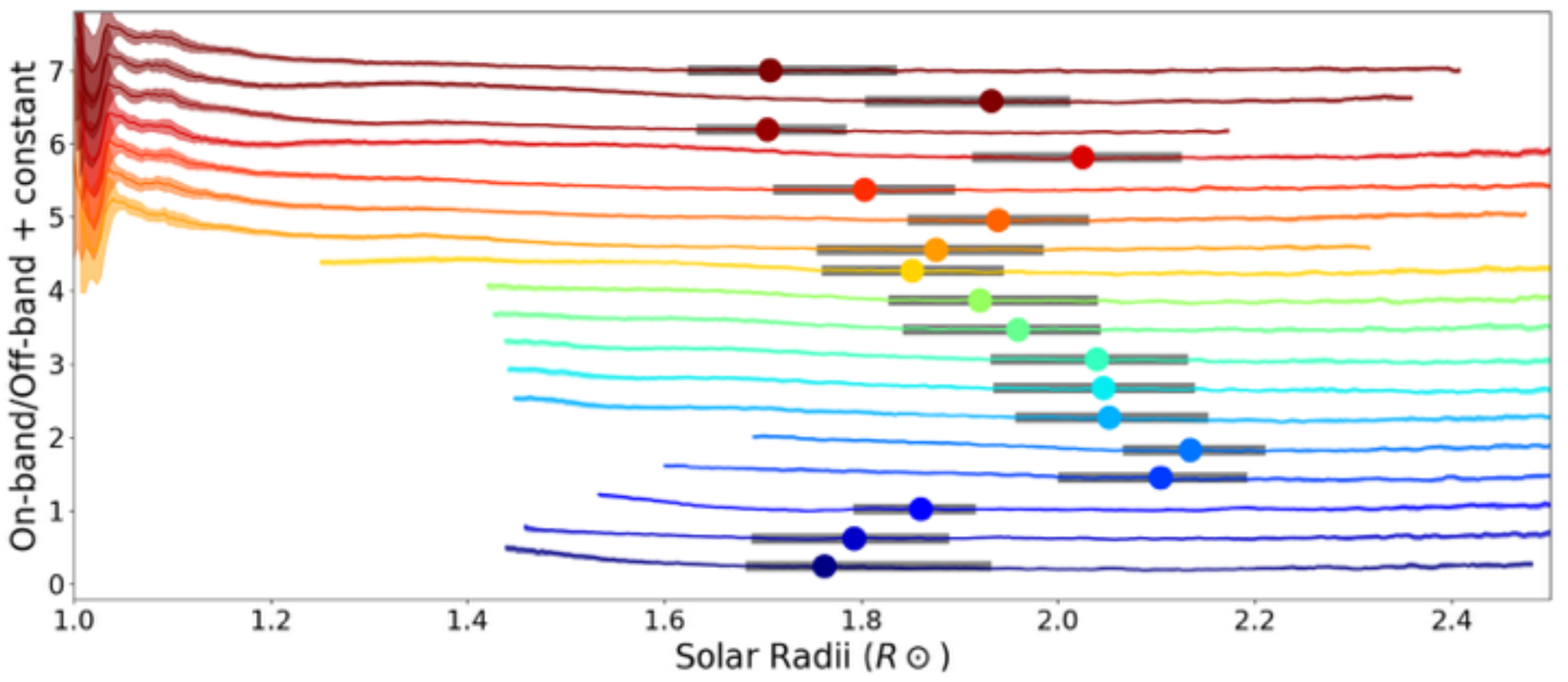
Fe^{10+} Coronal Holes



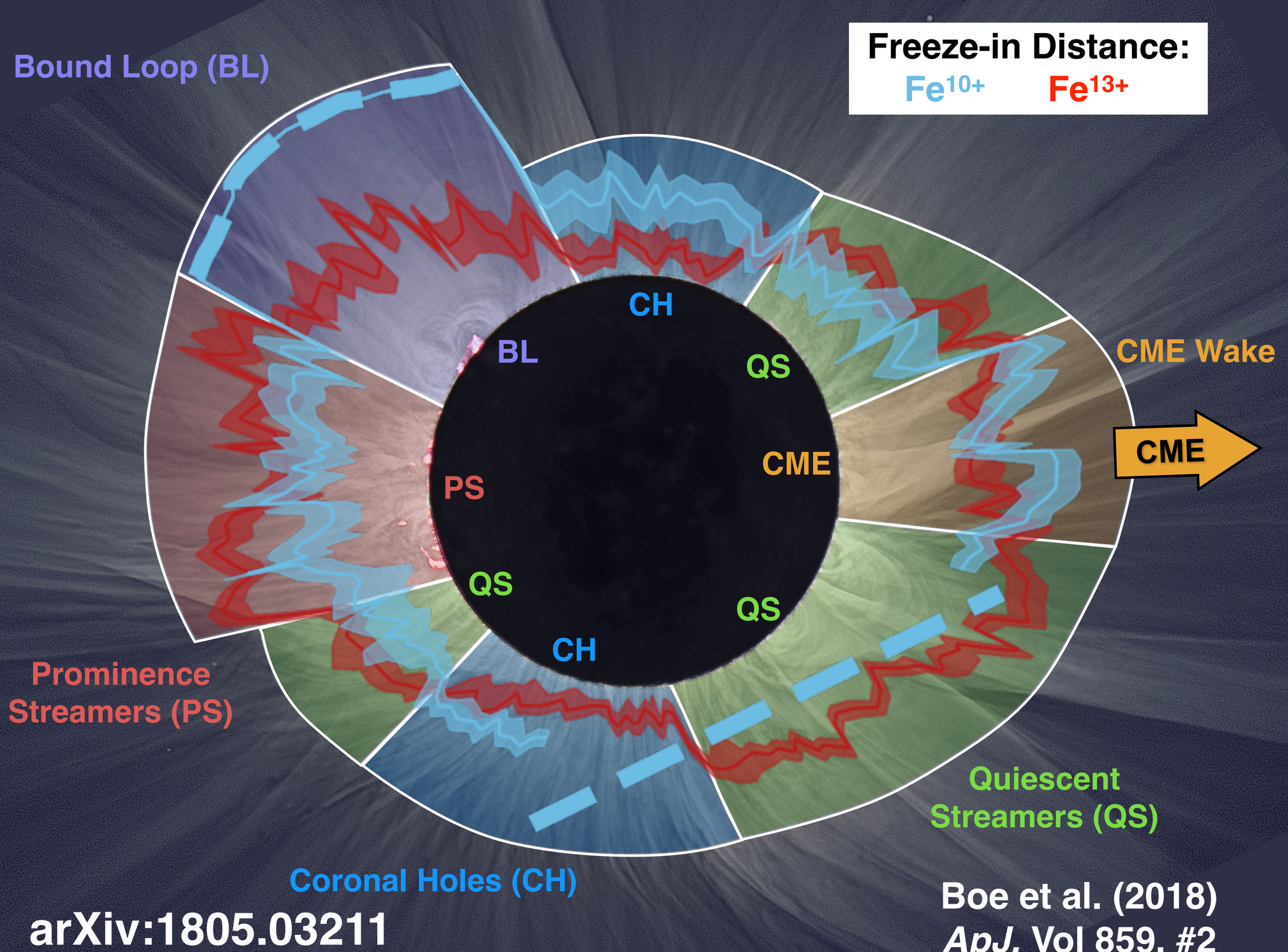


Fe^{13+} Streamers





Boe et al. (2018)



arXiv:1805.03211

Boe et al. (2018)
ApJ, Vol 859, #2

Freeze-in Results

R_f BY CORONAL MORPHOLOGY

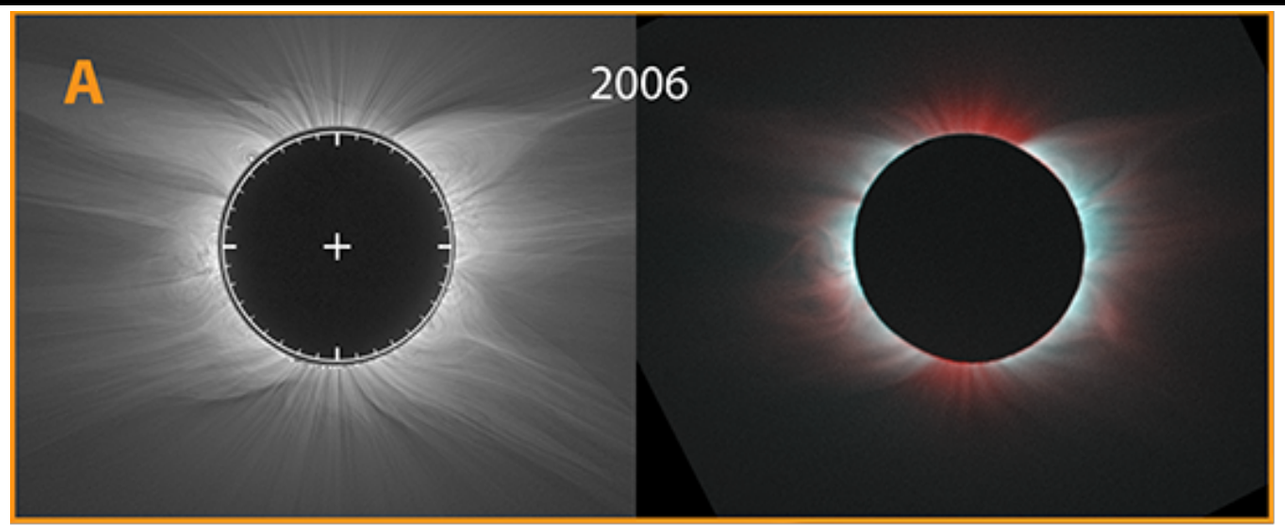
Ion	Coronal Holes	Quiescent Streamers	Prominence Streamers	CME Wake
Fe^{10+}	1.44 ± 0.06	1.45 ± 0.14	1.65 ± 0.14	1.99 ± 0.16
Fe^{13+}	1.19 ± 0.09	1.62 ± 0.18	2.03 ± 0.17	1.81 ± 0.11

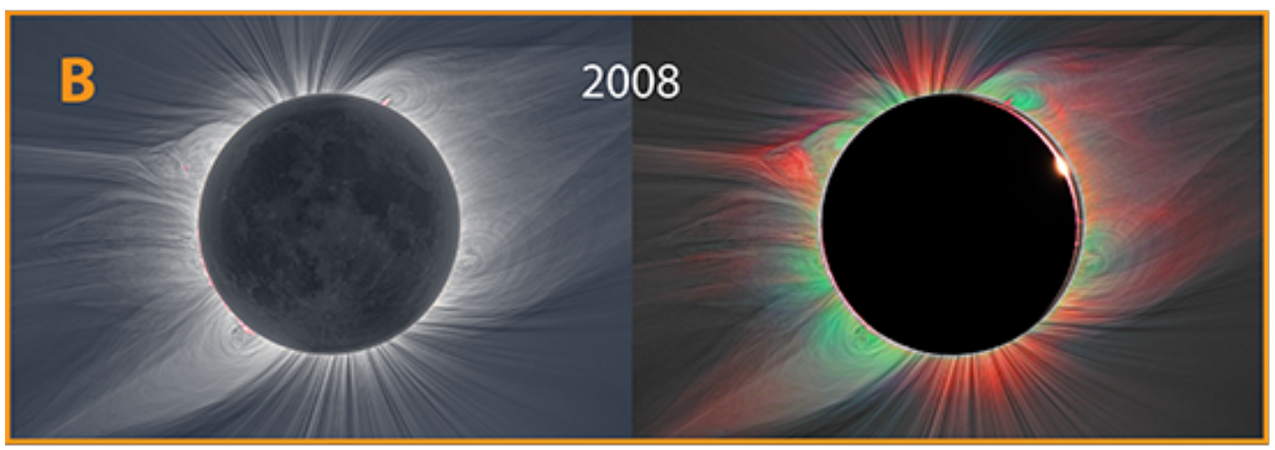
- Statistically significant different distances by region
- Cause of differences not clear
- Need additional eclipses

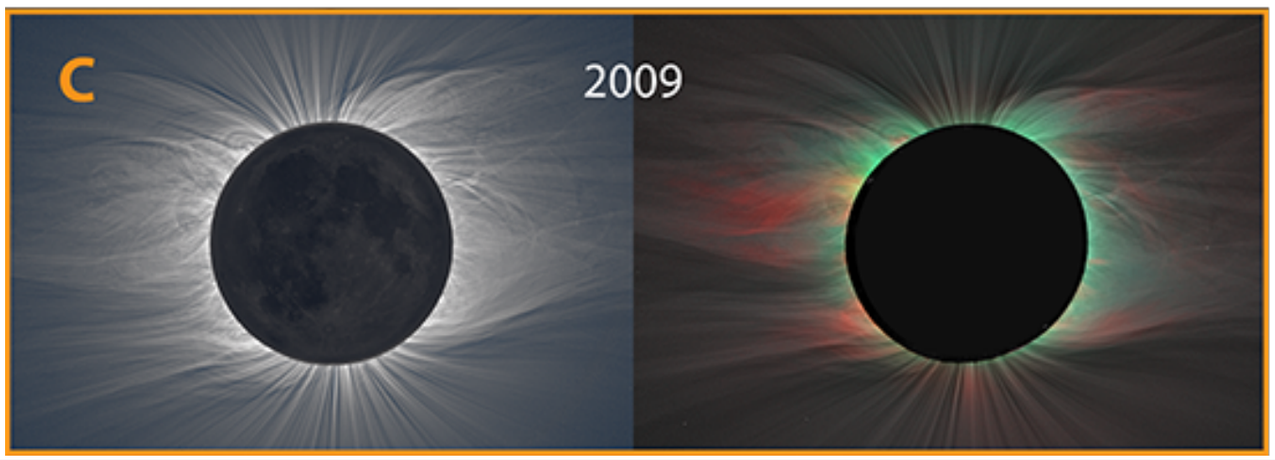
Boe et al. (2018)
***ApJ,* Vol 859, #2**

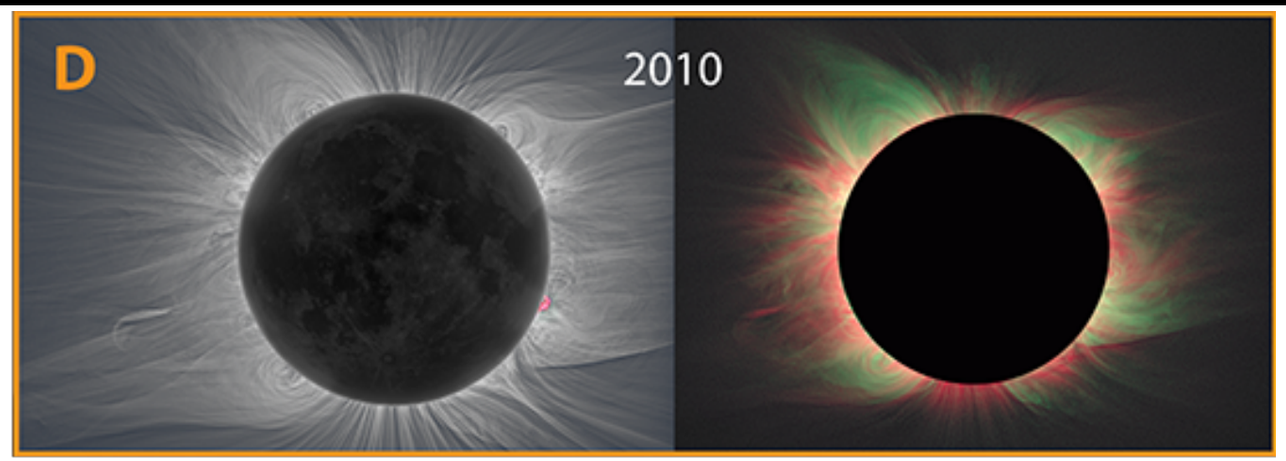
arXiv:1805.03211 **http://www.ifa.hawaii.edu/users/bboe/**

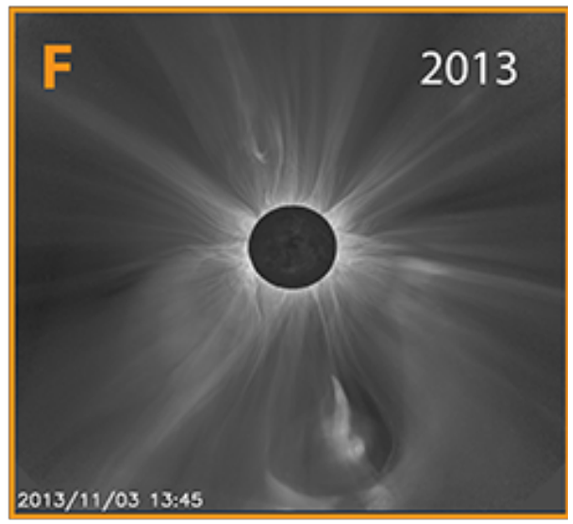
Many Eclipses to Study

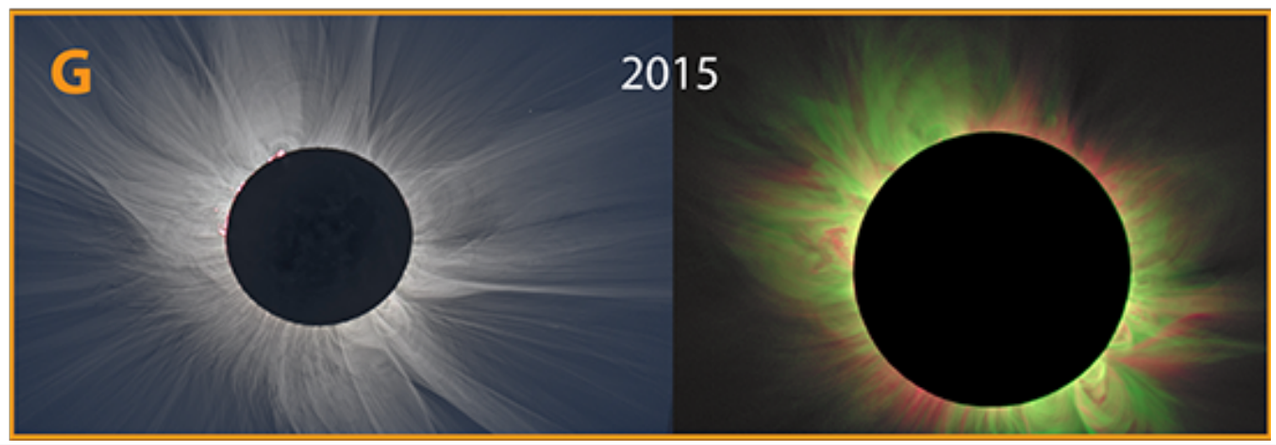












2017 Eclipse

Eclipse 2017 Observing Sites