

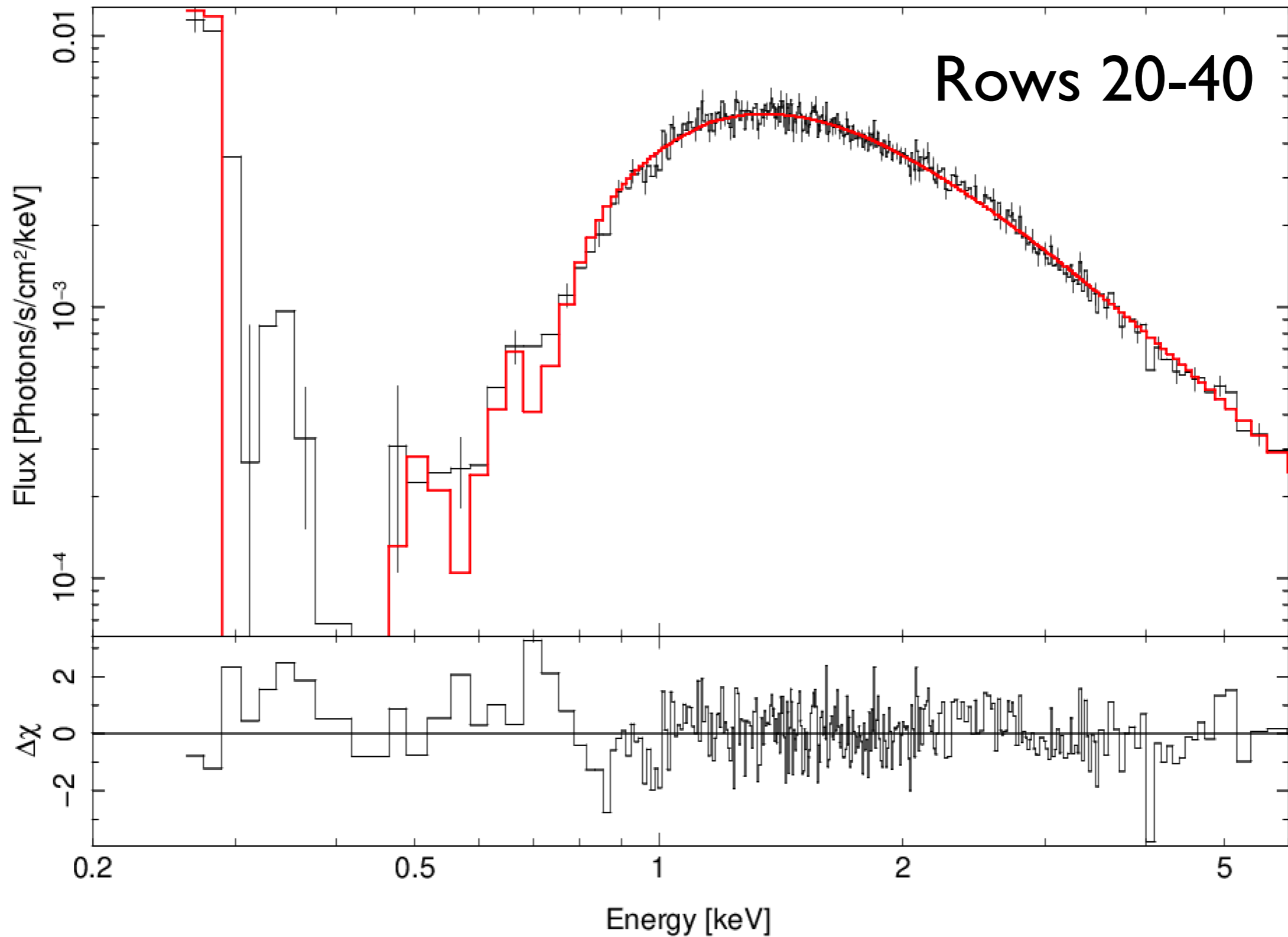
Chandra
Contaminant Update:
No end in sight...

Herman L. Marshall

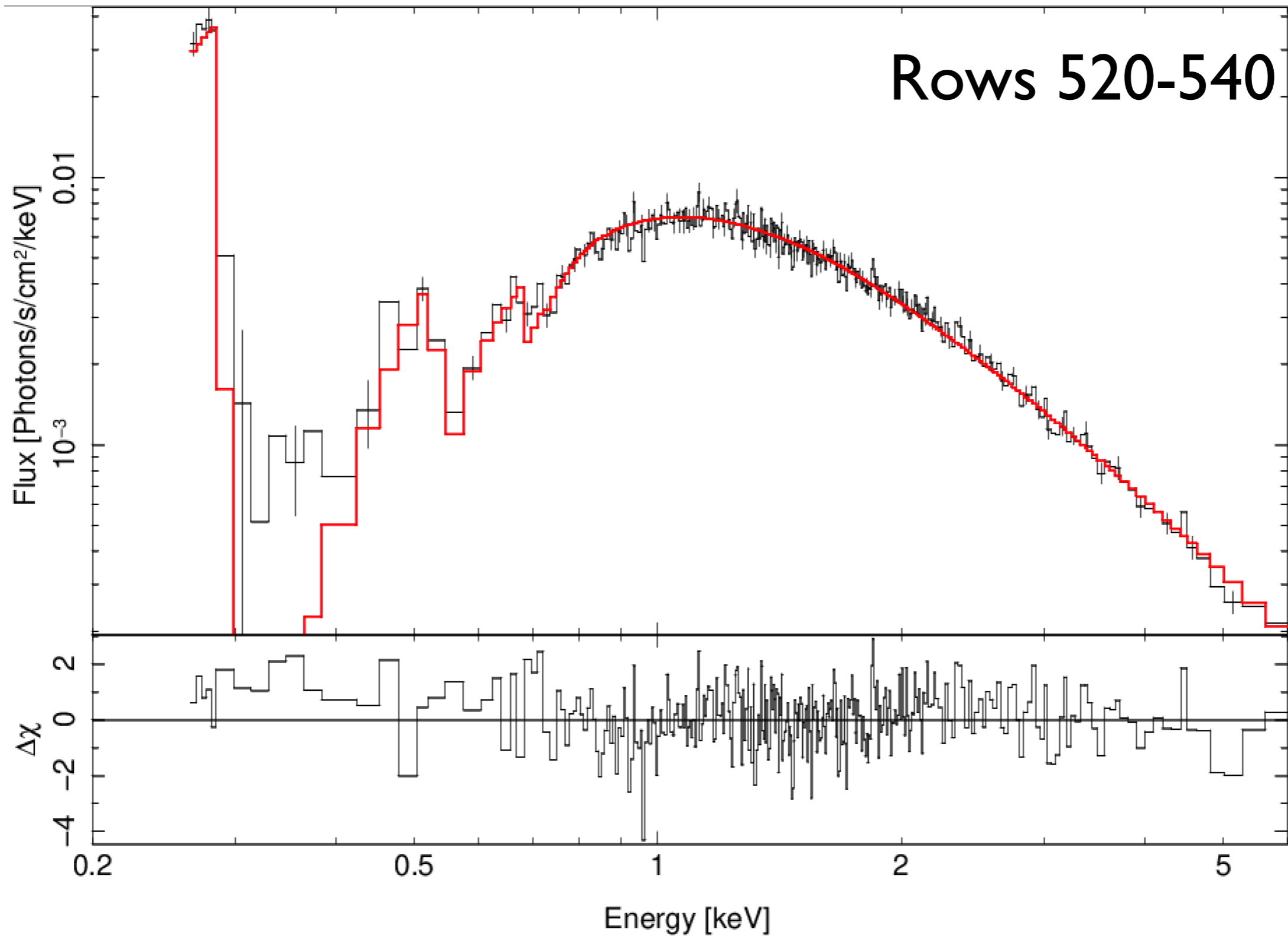
Big Dither Process

- New Big Dither Data: 12/2023, 4/2024
 - 60 ks for mid rows (280-512)
 - 120 ks for low rows (20-280)
- Extract 10 spectra of 20-80 rows each
- Fit COF optical depths in isis
 - fixed slope, curvature per group
- Fit $N * \cosh[(y-512)/120] + C$; each element

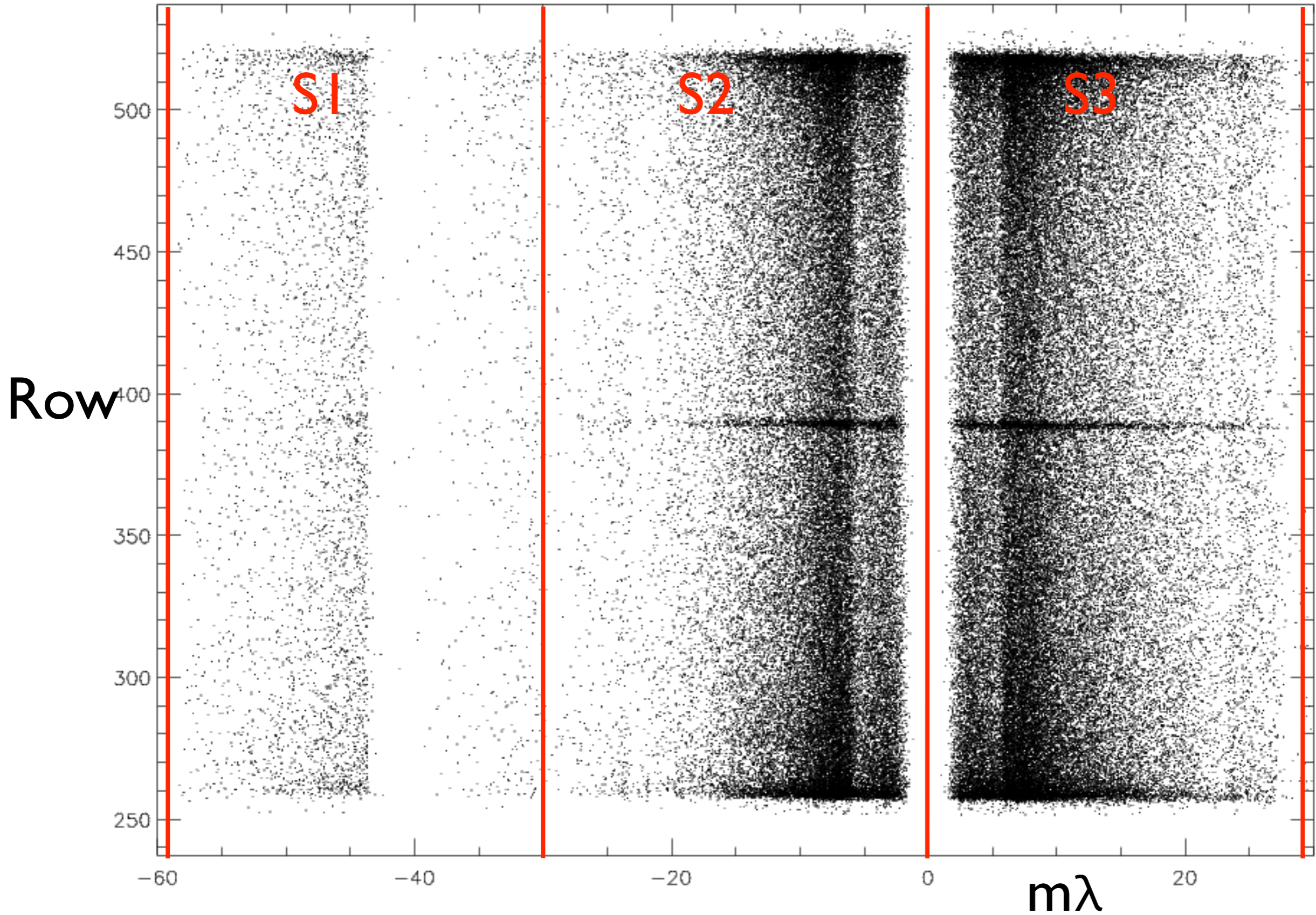
Example Spectral Fits



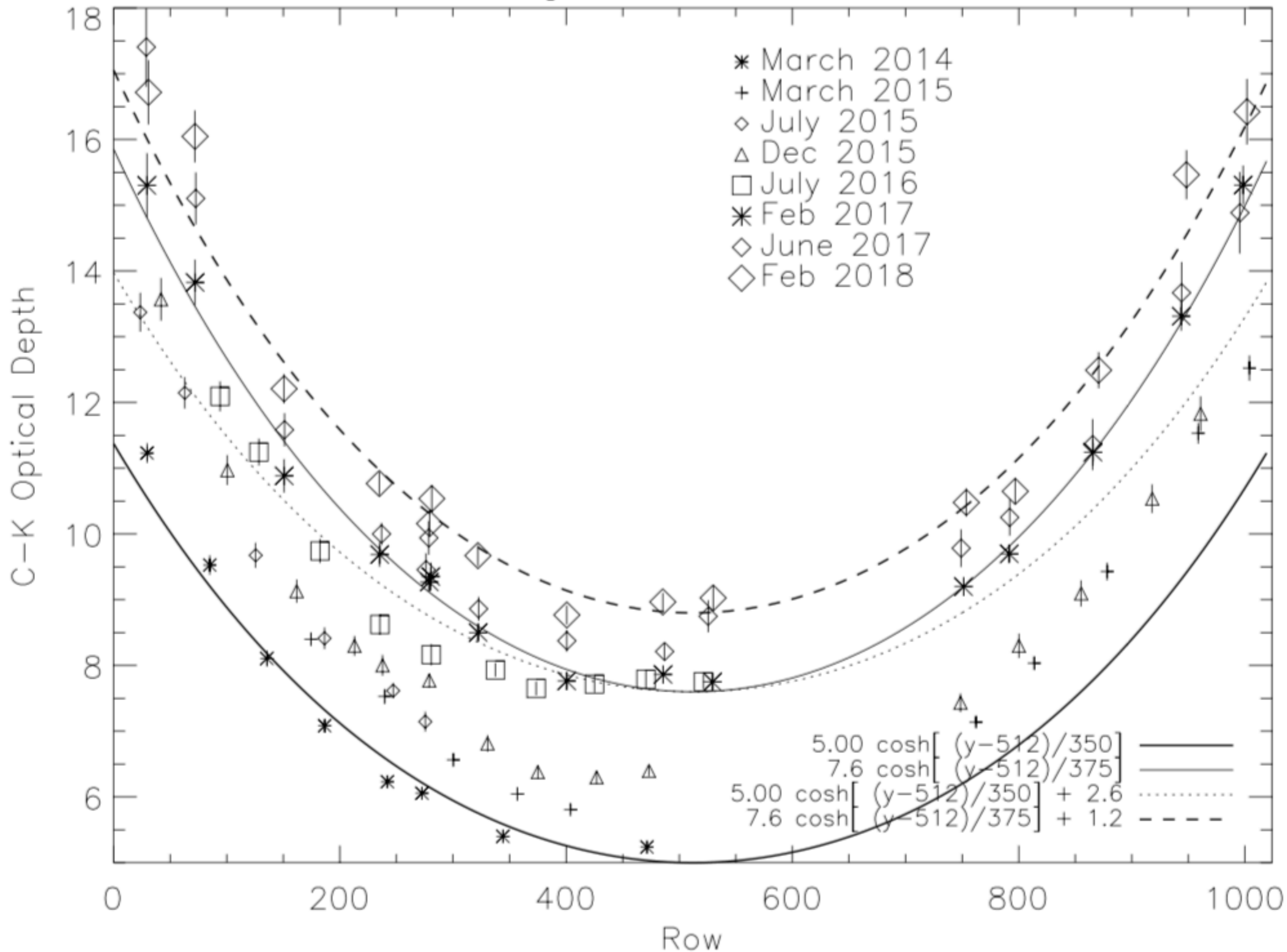
Example Spectral Fits



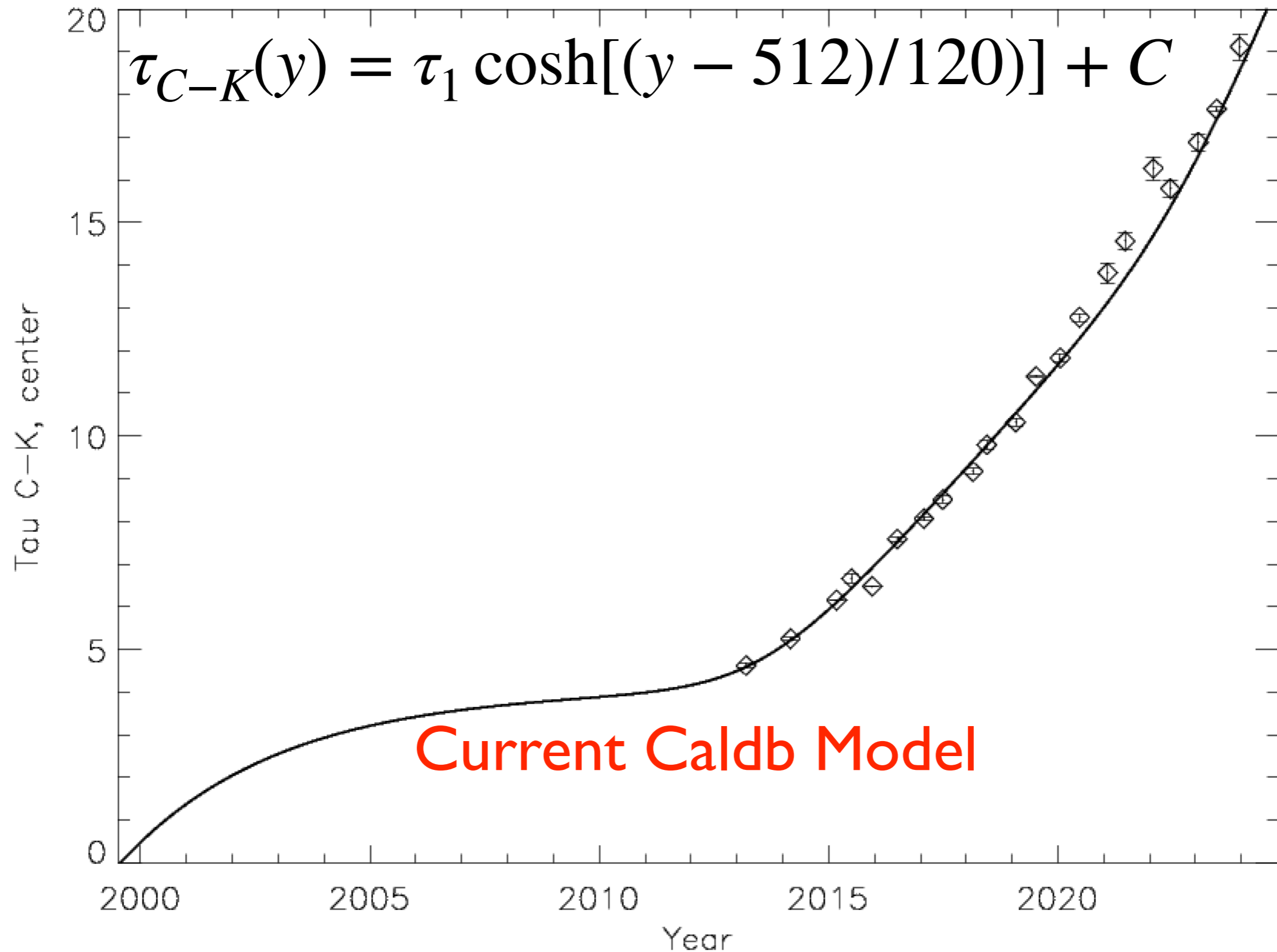
Mid-Row



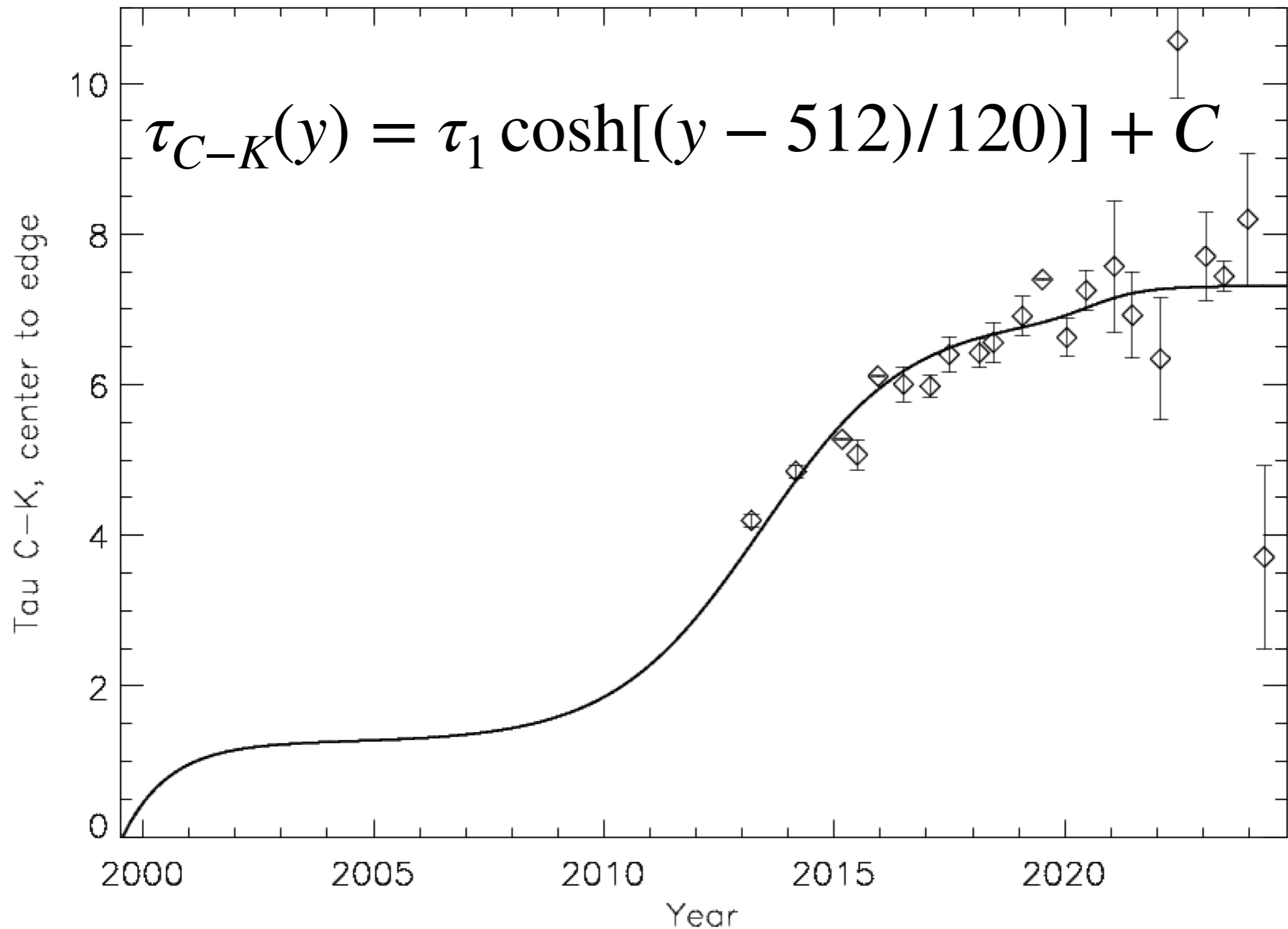
Big Dither 2014–8



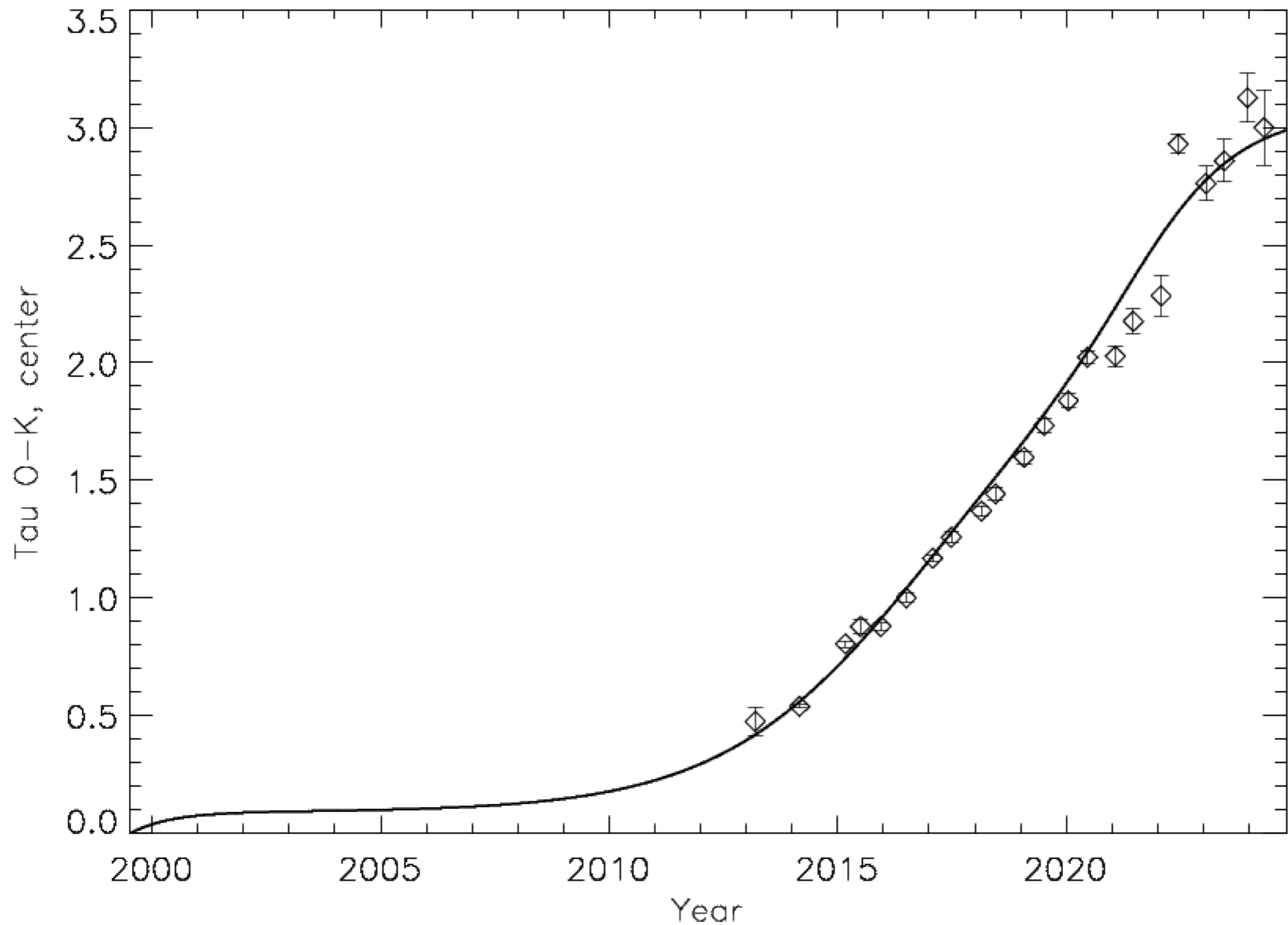
Uniform Part, C-K



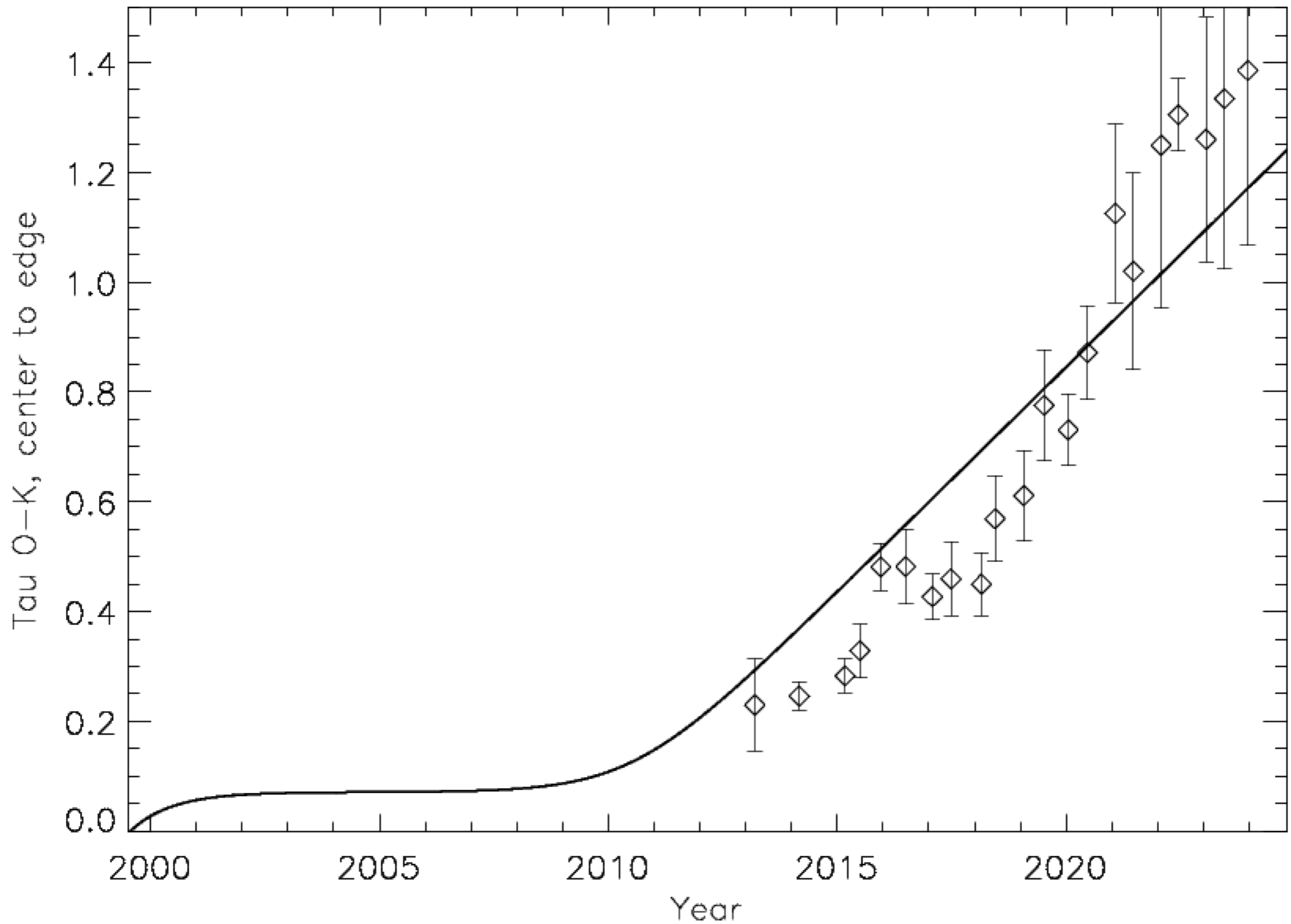
Spatial Part, C-K



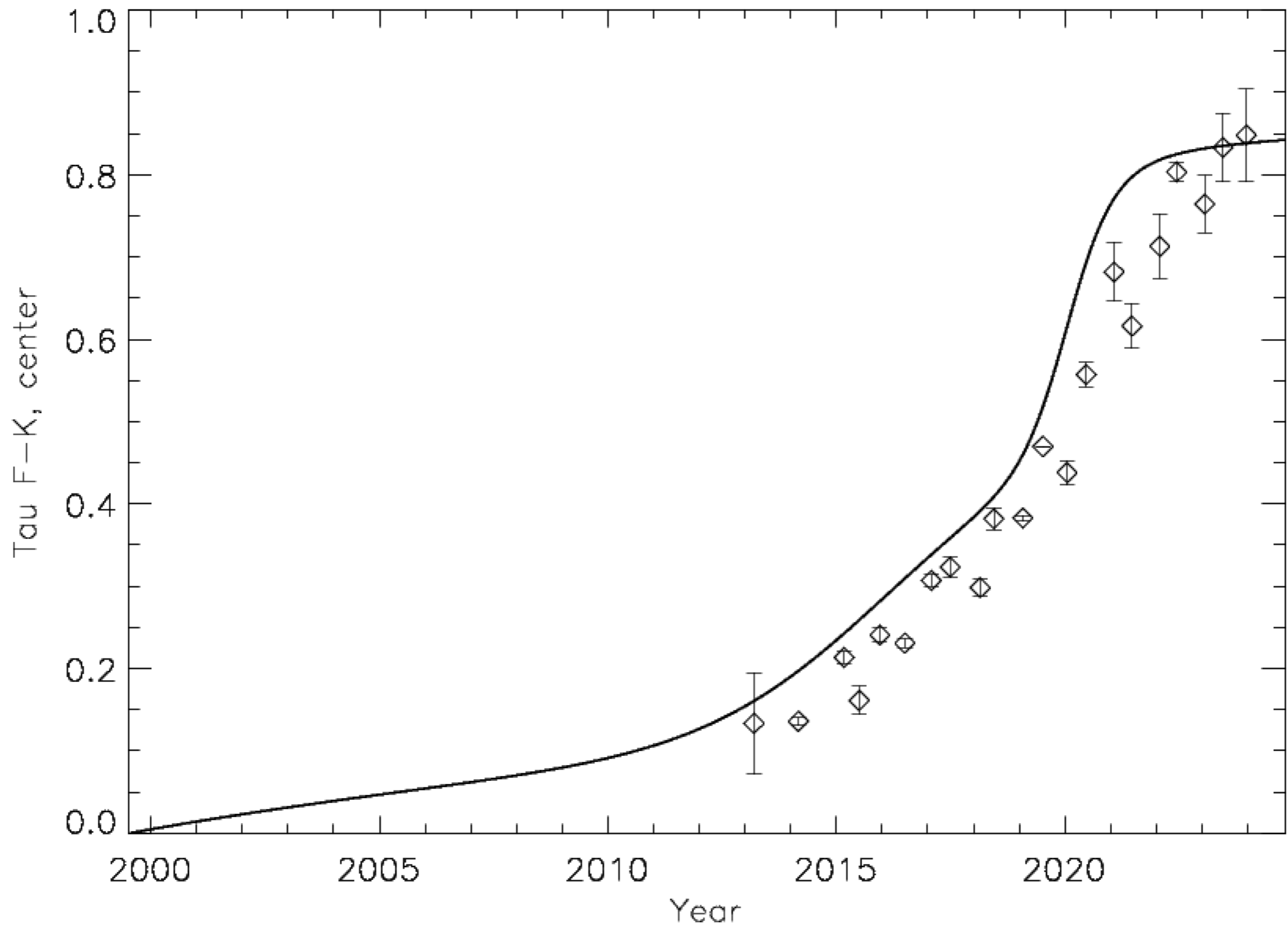
Uniform Part, O-K



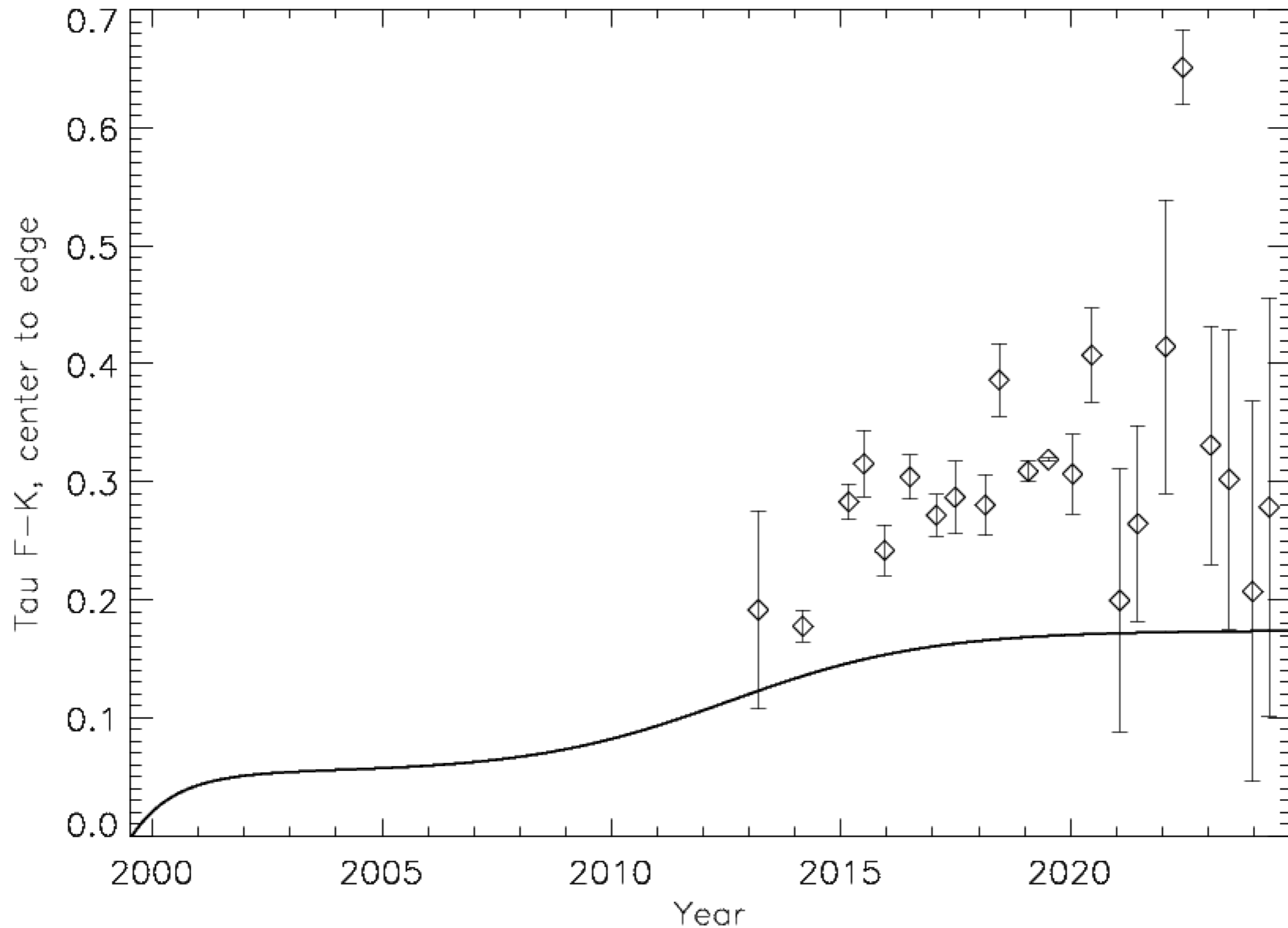
Spatial Part, O-K



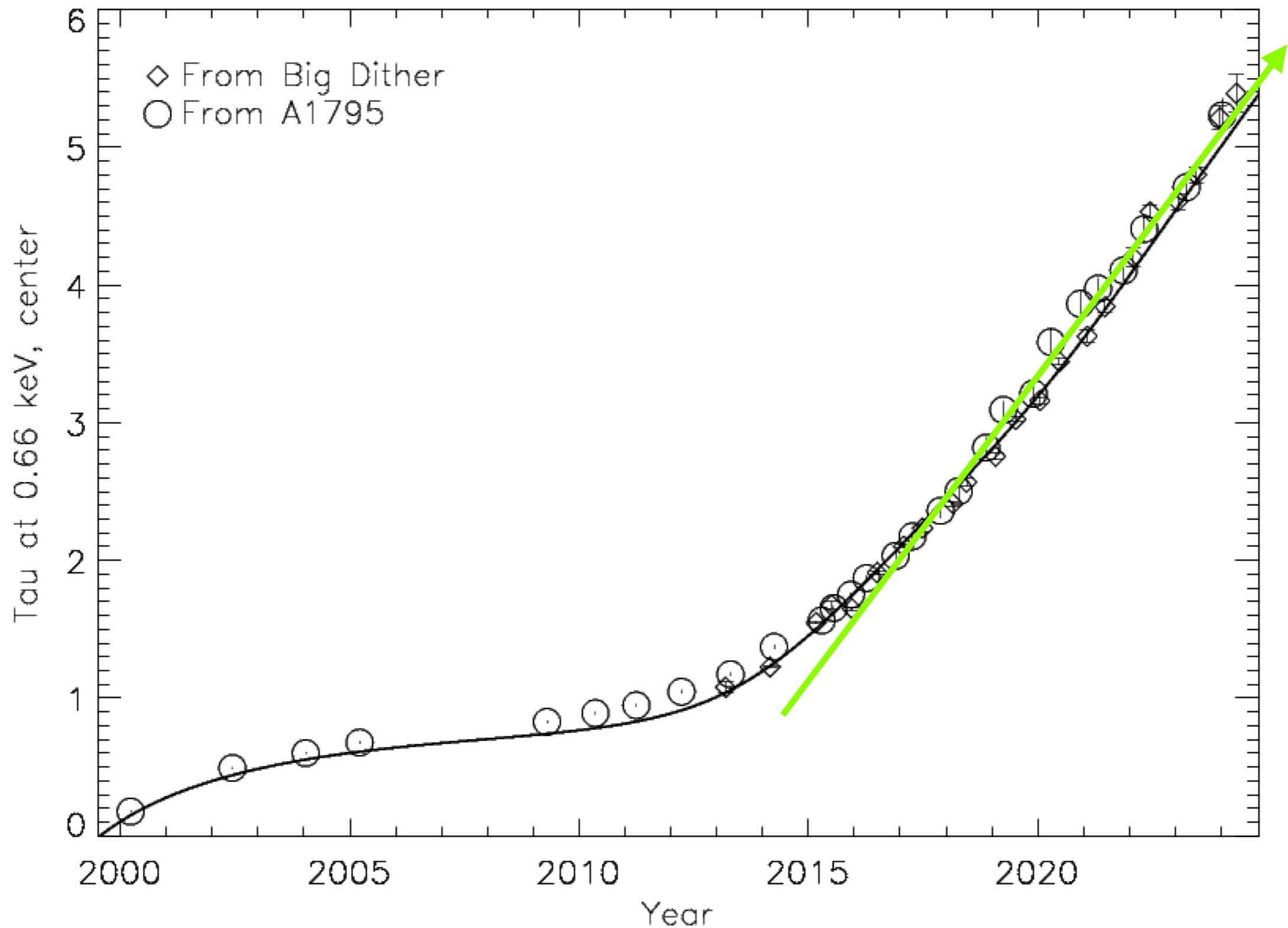
Uniform Part, F-K



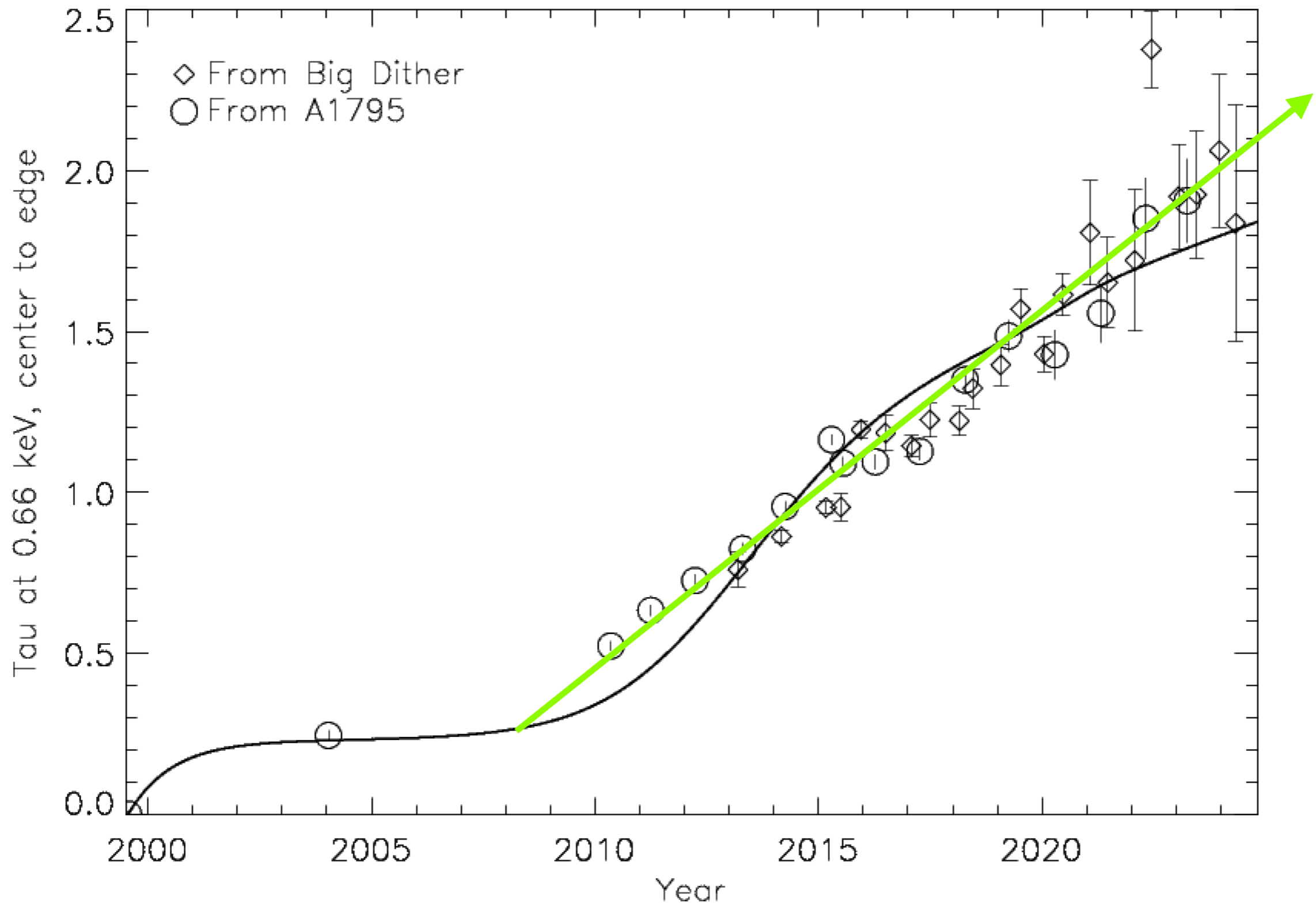
Spatial Part, F-K



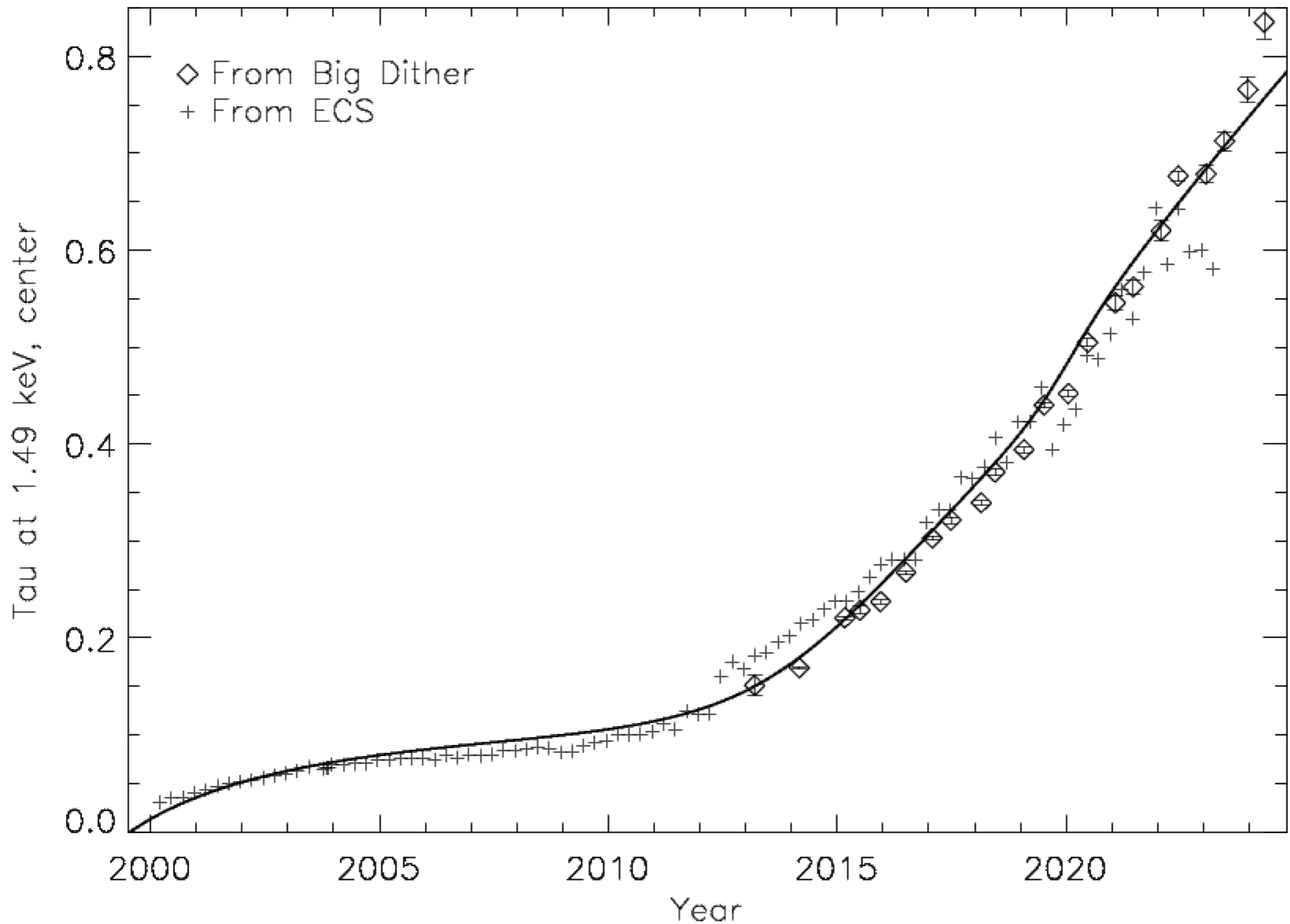
Compare to A1795



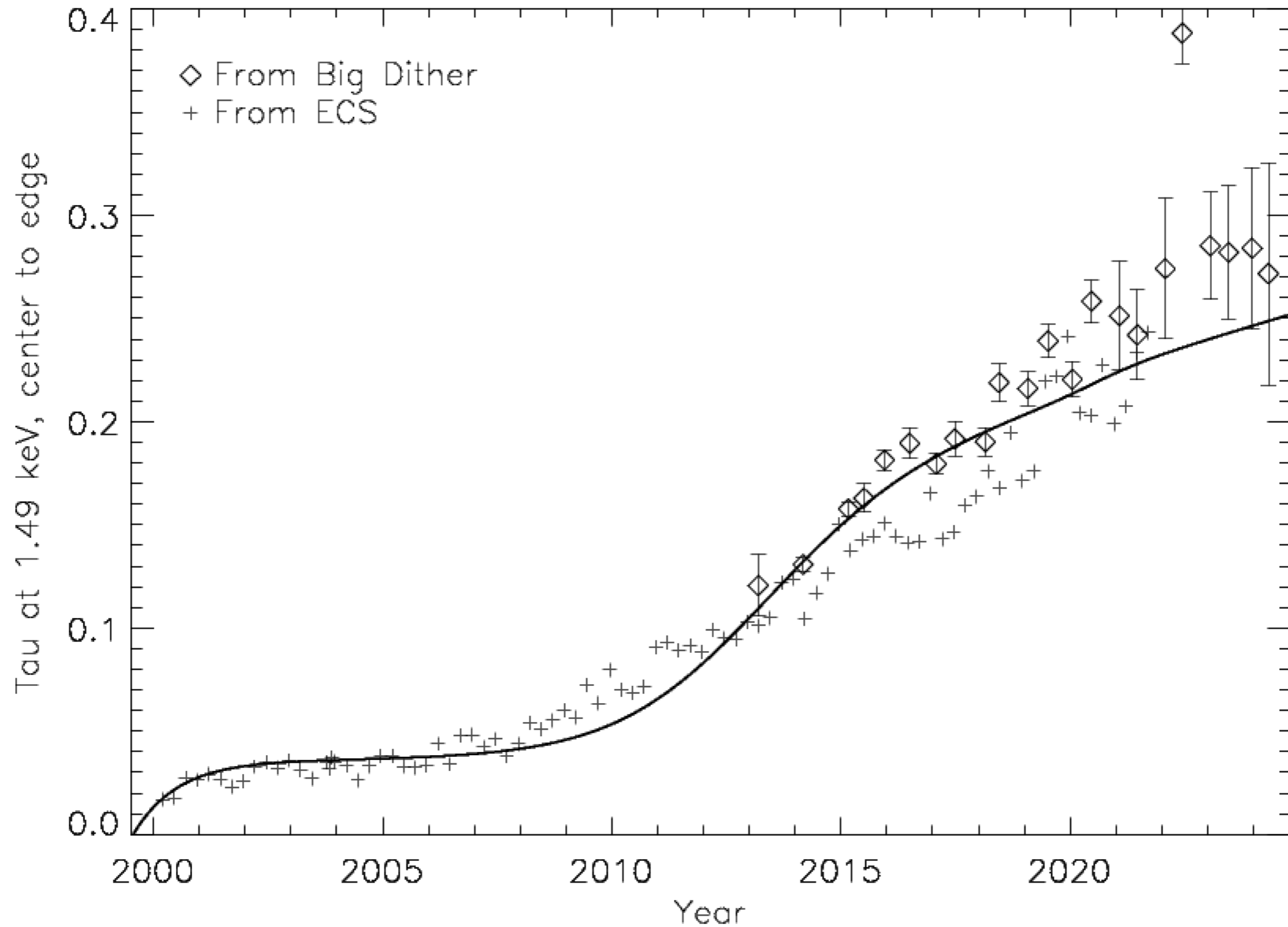
Compare to A1795



Compare to ECS AI-K



Compare to ECS AI-K



Summary

- Contaminant deposition continues
 - rate hasn't changed in ~10 years
 - ACIS-I measurements are irregular, more like ACIS-S
- New material is different than in 2001-5
 - O/C is higher
 - 285 eV feature is present — it's aliphatic
- New material is more uniform than old
- Spatial dependence is still asymmetric, with more at high rows
- Model is OK now