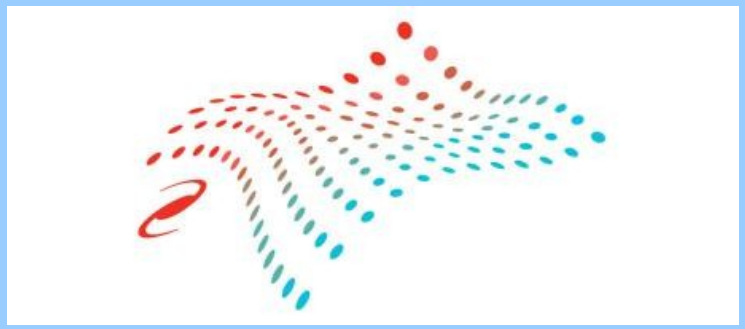
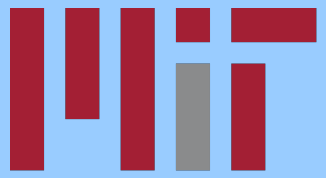
X-ray news from RW Auriga

Optical dimming with iron rich plasma and an exceptional column density

Hans Moritz Günther

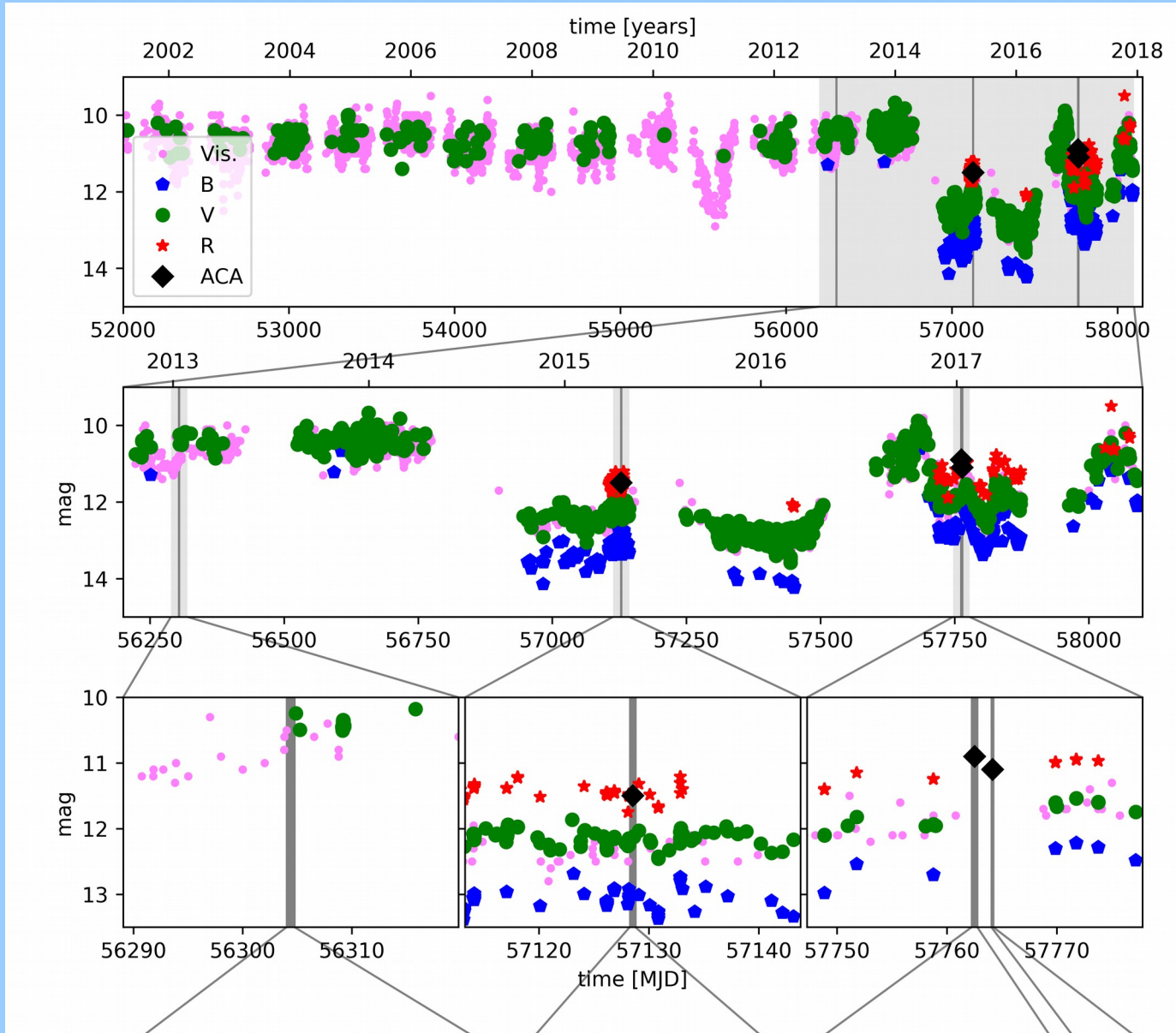
Günther, Birnstiel, et al. AJ 156, 56 (2018)



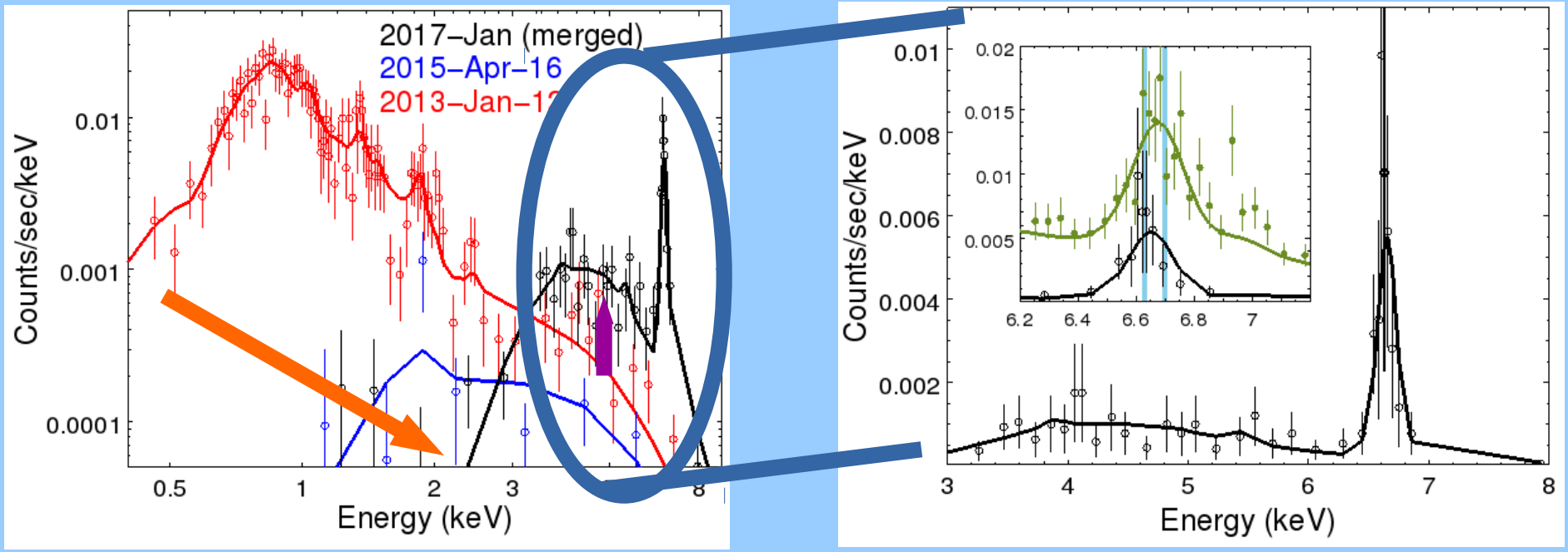


Massachusetts Institute of Technology

Chandra observations and lightcurve



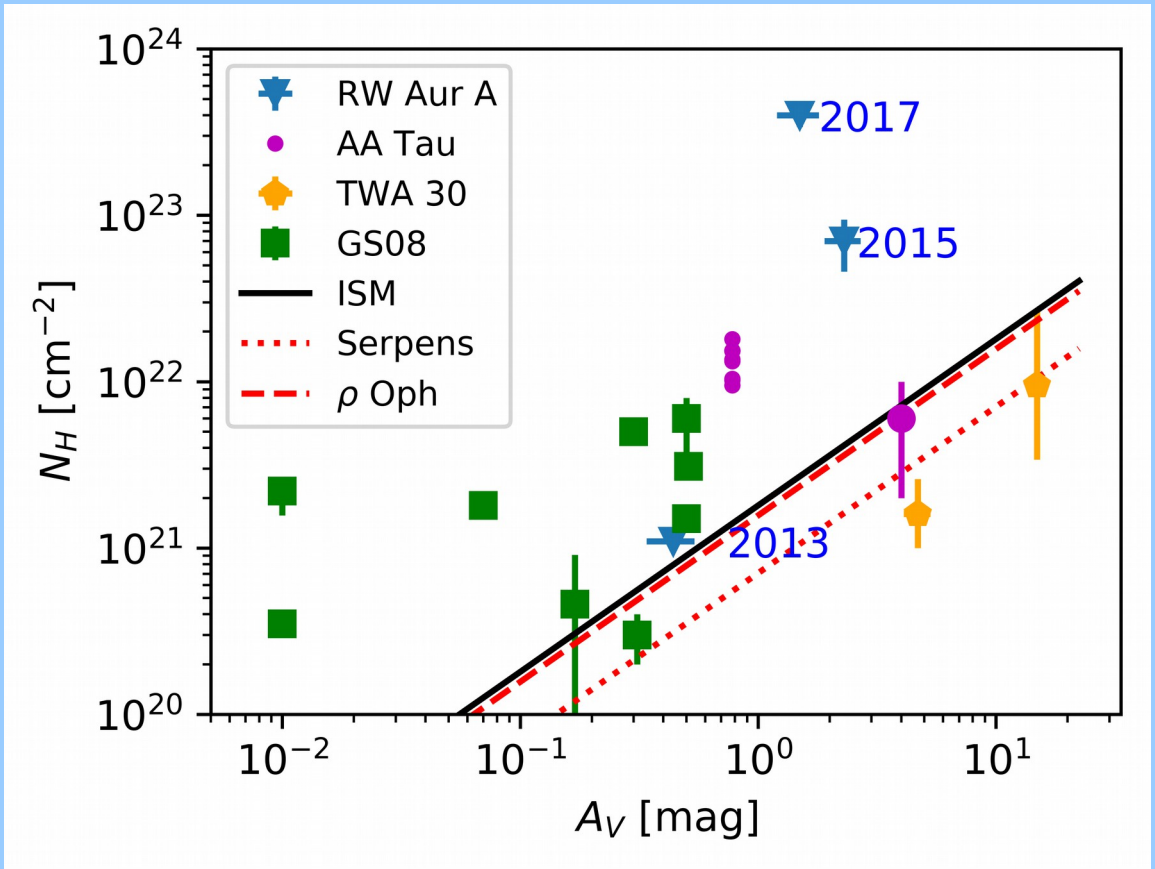
Chandra spectra: Vastly different every time we look



In the spectrum we observe: between 2013 and 2017

- emission at high energies multiplies
- absorbing column density N_H increases from $1*10^{21}$ to $4*10^{23}$ cm^{-2}
- Fe abundance in corona increases from 0.5 to 15 times solar

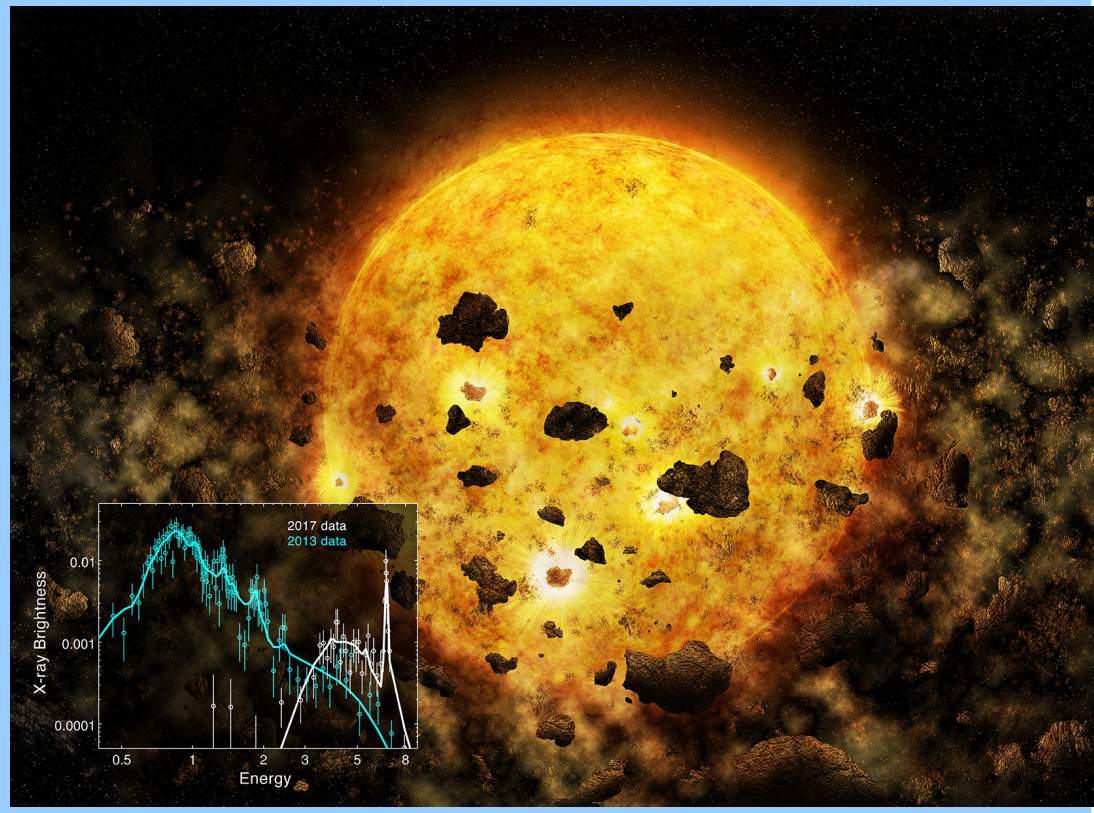
Absorber



- Optical extinction is gray → thick absorber or large grains
- N_H/A_V skyrockets: gas rich absorber? (or at least non-ISM grains)

Summary

- N_H goes up by 400
- Fe abundance goes up by 30
- Need to accrete Fe rich material
- Limited knowledge of precursor of the Fe rich material



New Chandra observations coming, but not yet scheduled!

2 open Post-Doc positions

Chandra observations and lightcurve