ACIS background

Maxim Markevitch, 2001 Oct 30

• Temporal behavior:
quiescent rates declined until end of 2000, now growing.
Reject rate may help model time dependence

• VF mode improves background rejection —
without affecting good events (Vikhlinin's *clean55* filter)

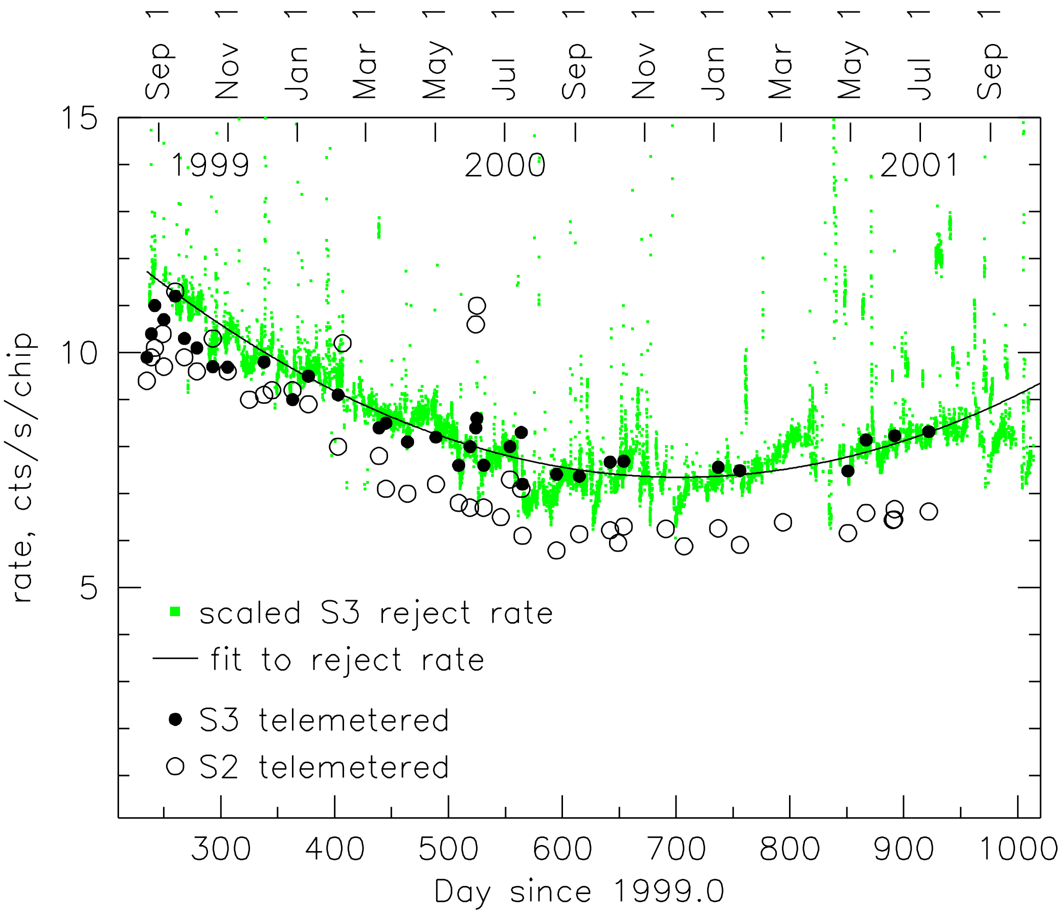
• Blank field quiescent datasets:
done for 3 intervals between Aug 1999 – Sep 2000;
Sep 2000 – Fall 2001 coming soon
(will include ACIS-I VF mode datasets;
too few ACIS-S VF observations)

• Work in progress: separating CXB and particle
backgrounds (dark moon; Histogram mode)

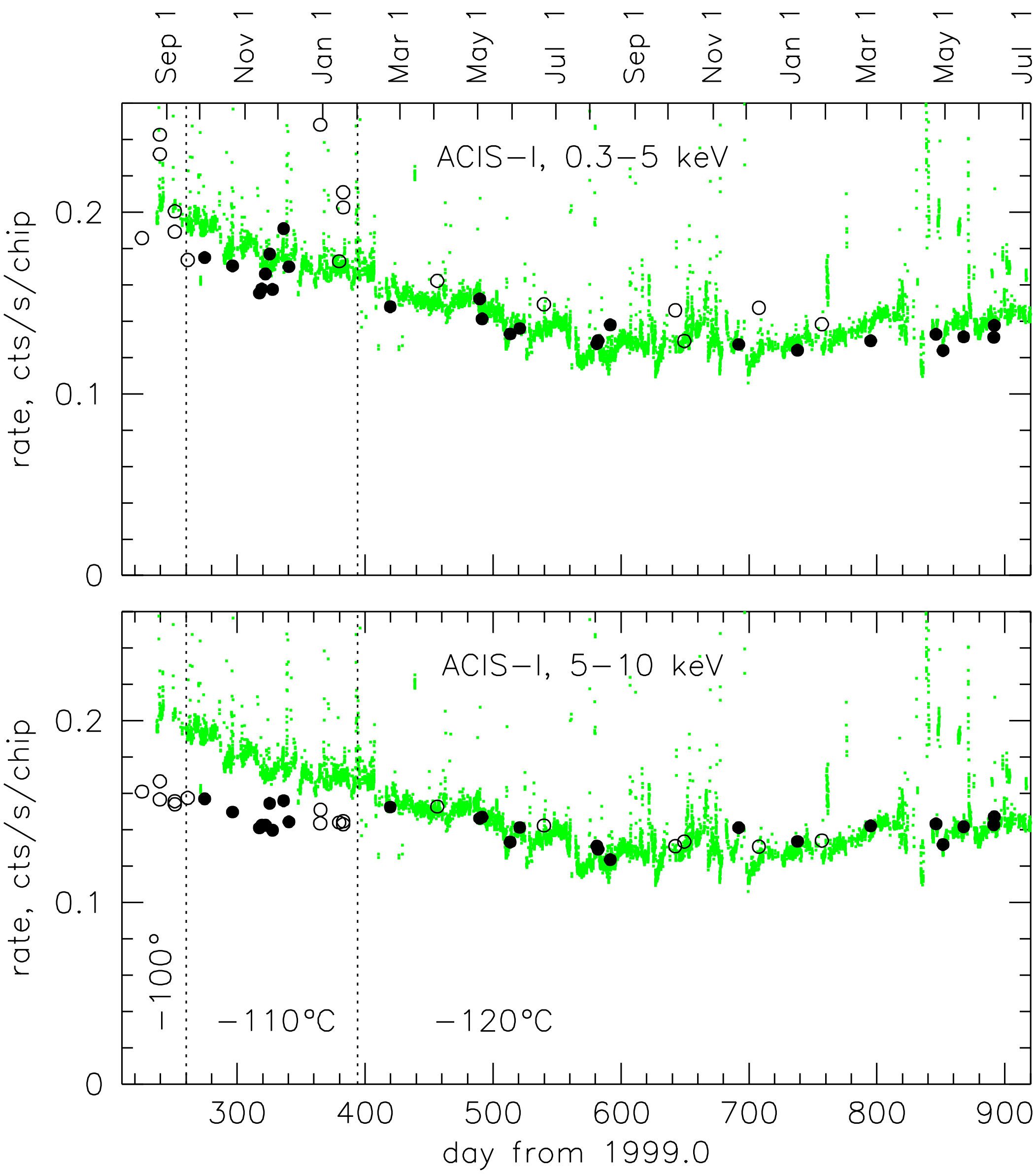
See asc.harvard.edu/cal , click "ACIS", "ACIS Background"

Total quiescent rate (all grades, energies)

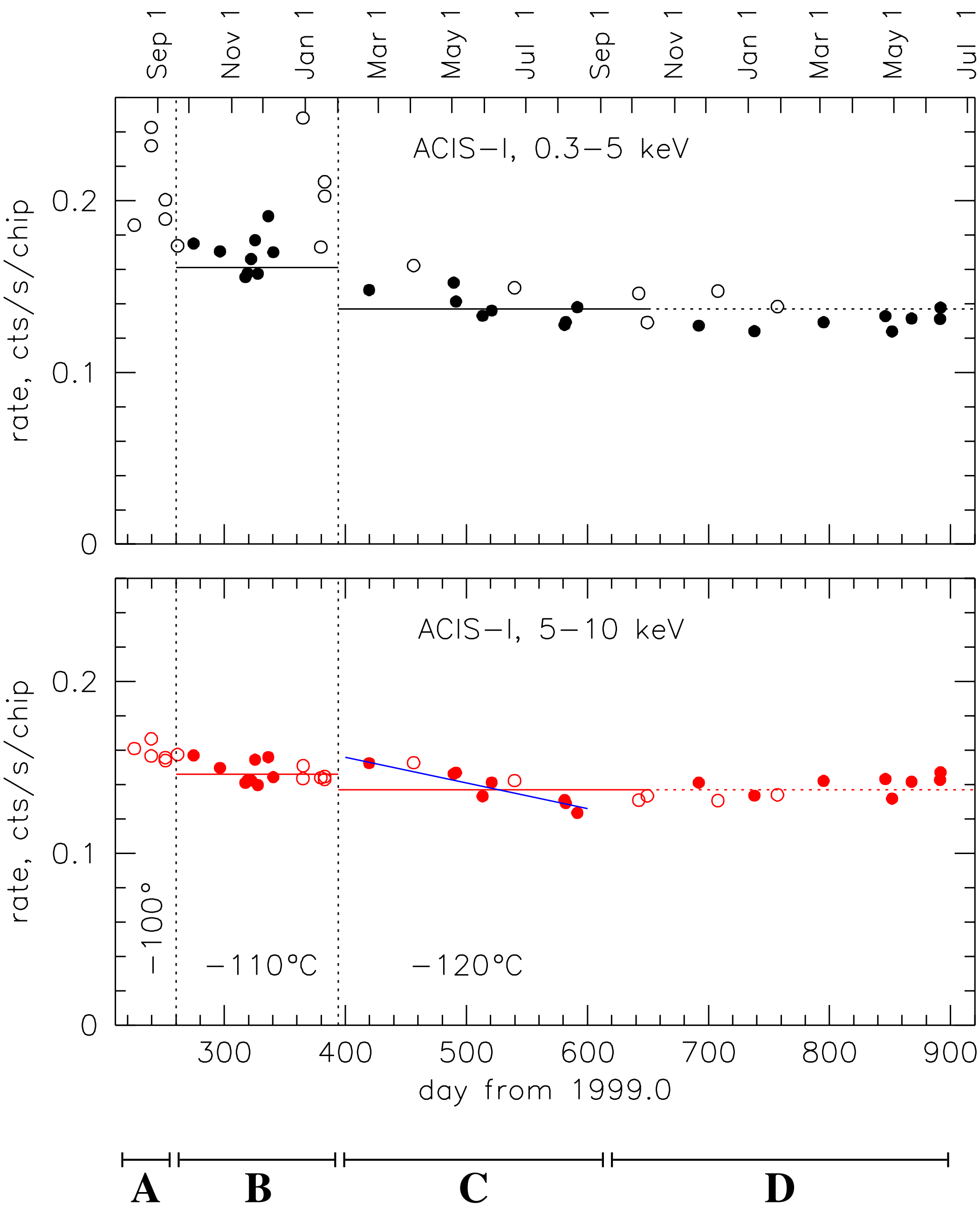
(S3 reject rate from Grant, Bautz, & Virani 2001)



Cleaned quiescent rates (good grades)



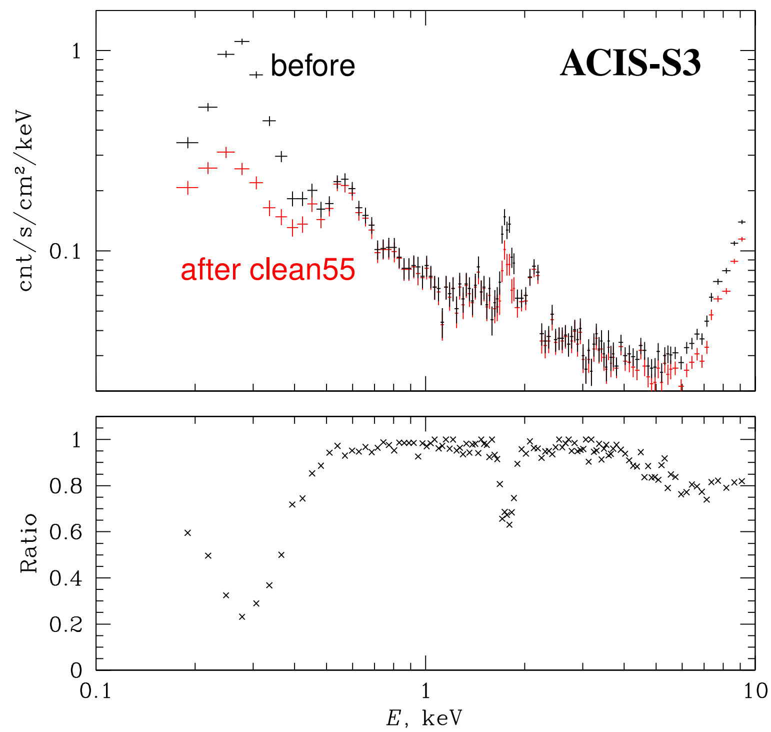
Cleaned quiescent rates (good grades)

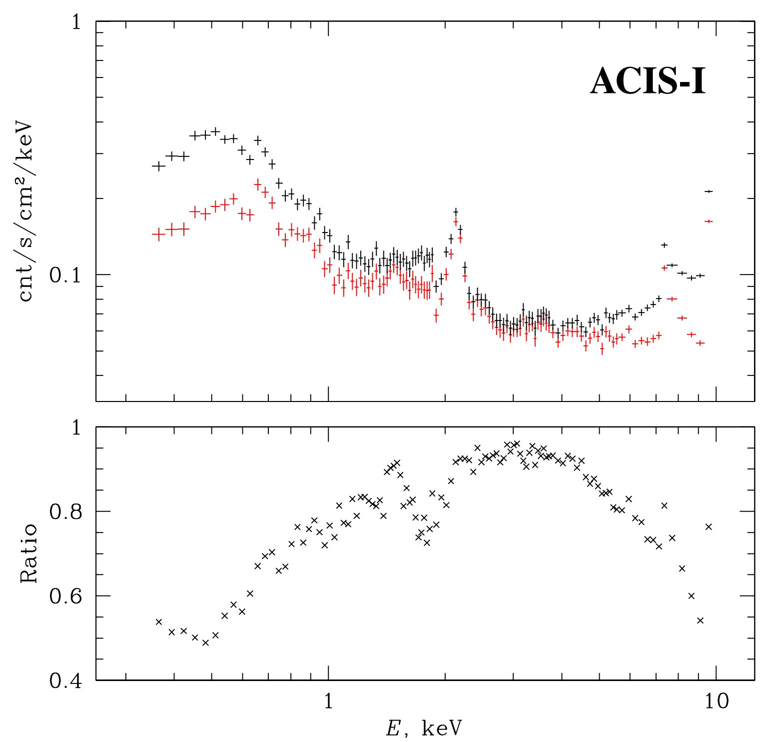


have datasets for these periods **coming soon**

Improved background rejection in VF mode

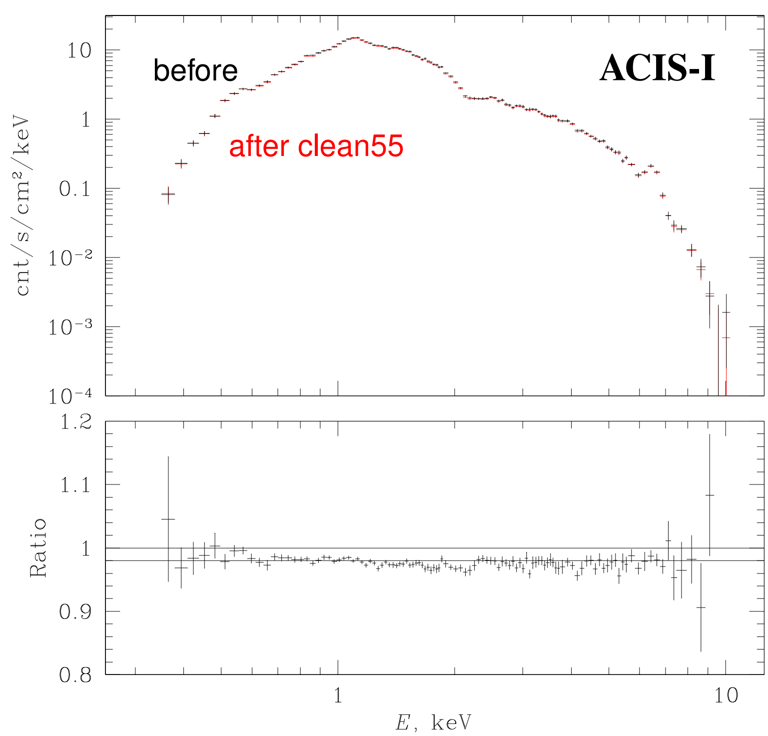
A. Vikhinin's filter clean55: hea–www.harvard.edu/~alexey/vf_bg





- **Use VF mode whenever possible**

Perseus cluster spectrum in VF mode



- **Almost no loss of good events (~ 2% across the energy band)**

Separating the CXB and particle components

(Beth Biller et al. work in progress)