

# Degap Corrections for HRC-S Grating Observations

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*Chandra Calibration Workshop, Oct 27-28 2003*

## CONTEXT

Dispersion relation shows non-linearities

Lab derived degap v/s flight data

## PROCESS

Extract source photons

Derive photon distribution in detector space

Force observed distribution of photons to match

## RESULTS

Empirically determine degap shifts

Apply to other data (see Chung et al. poster)

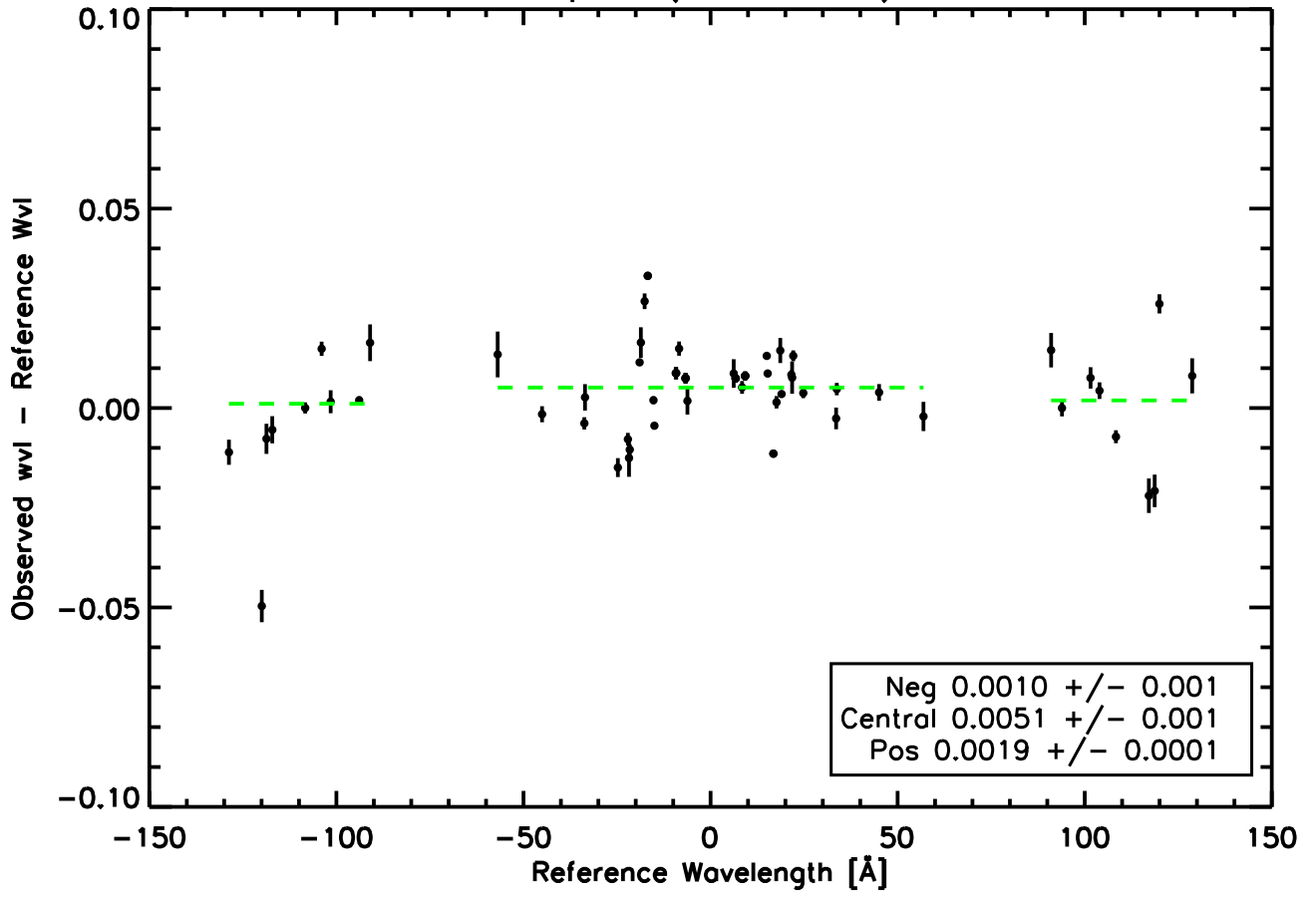
## COMMENTS

Magnitude of corrections

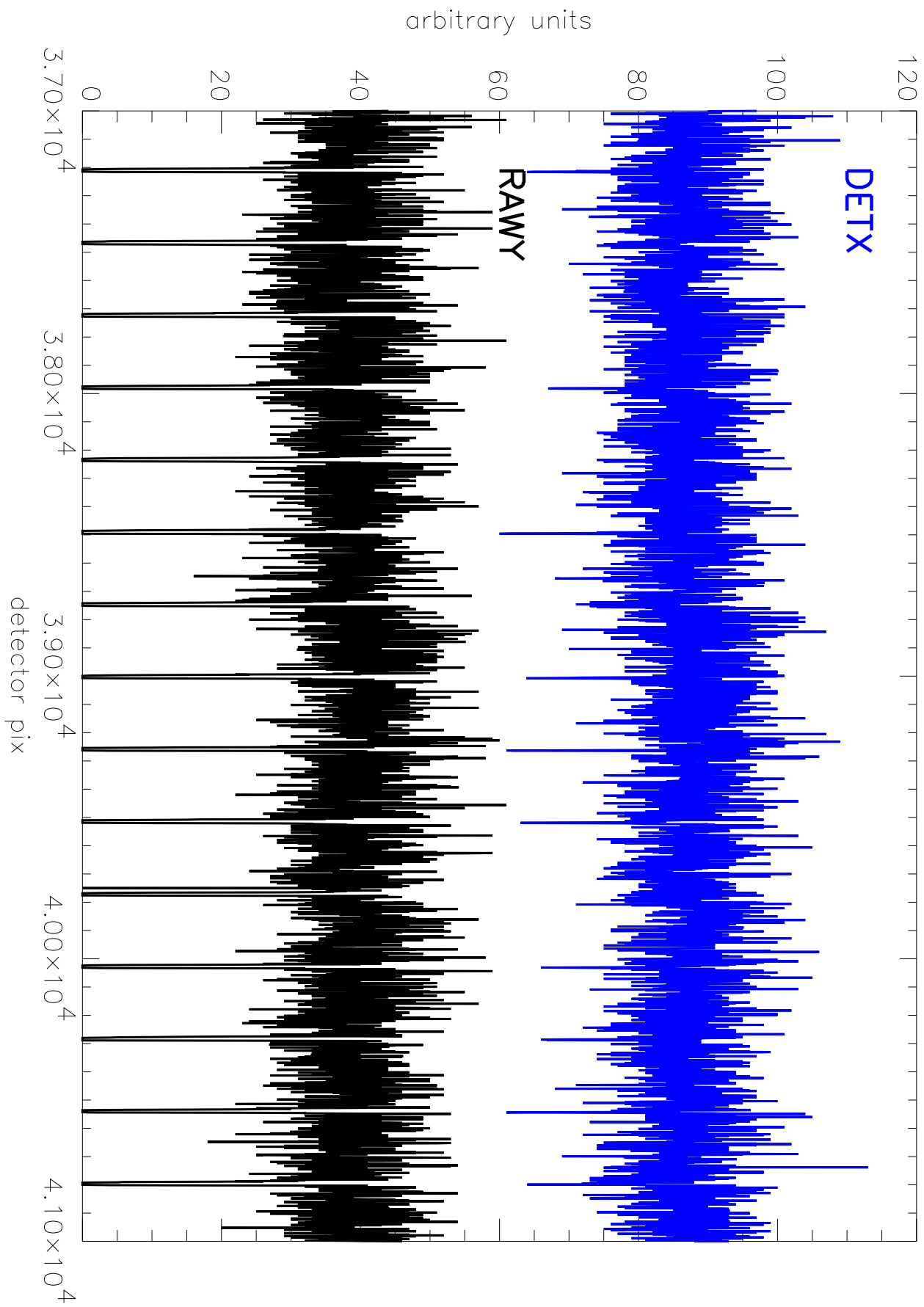
Limitations

What is next?

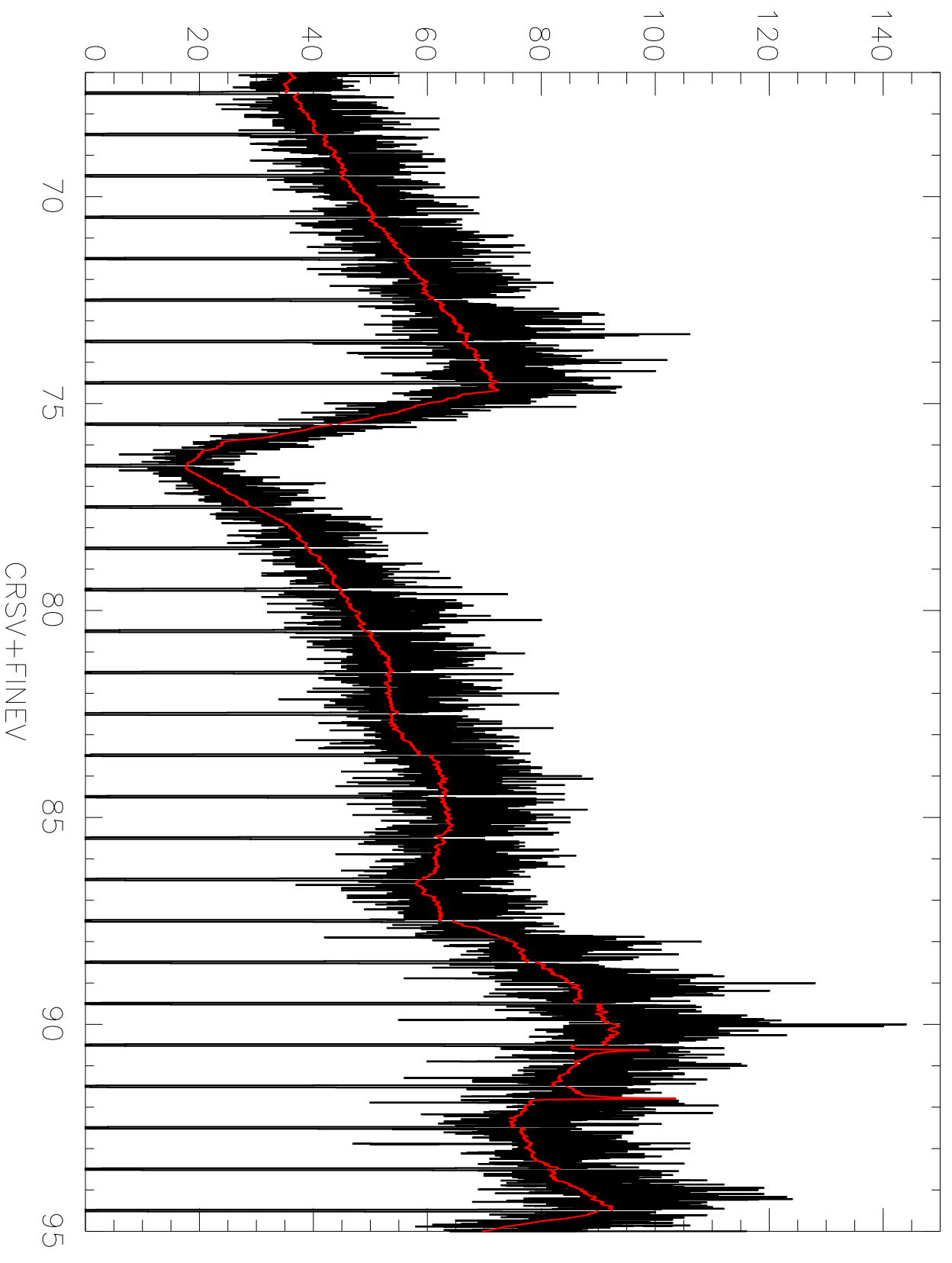
Capella (Obsid 1248)



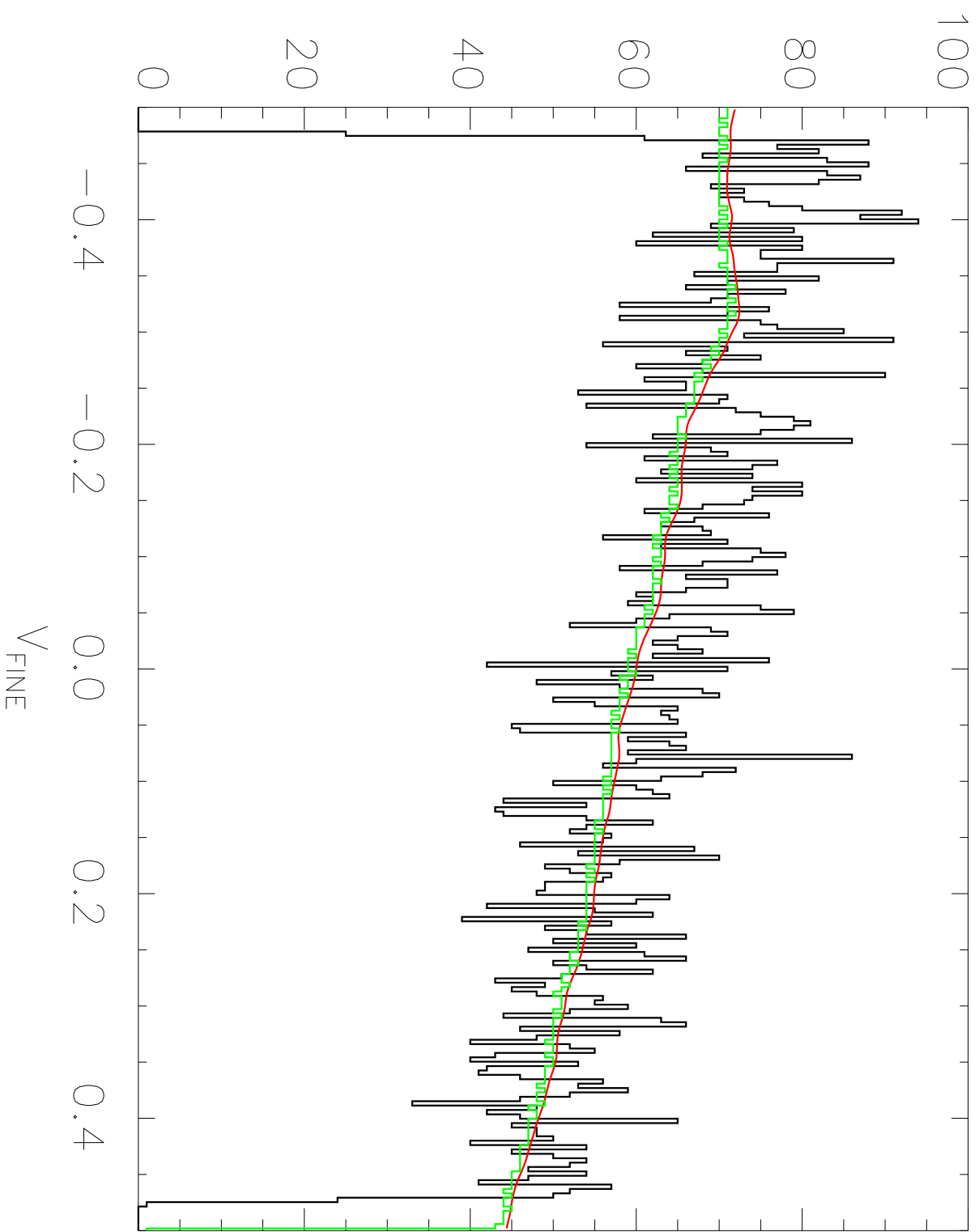
ObsID 1420



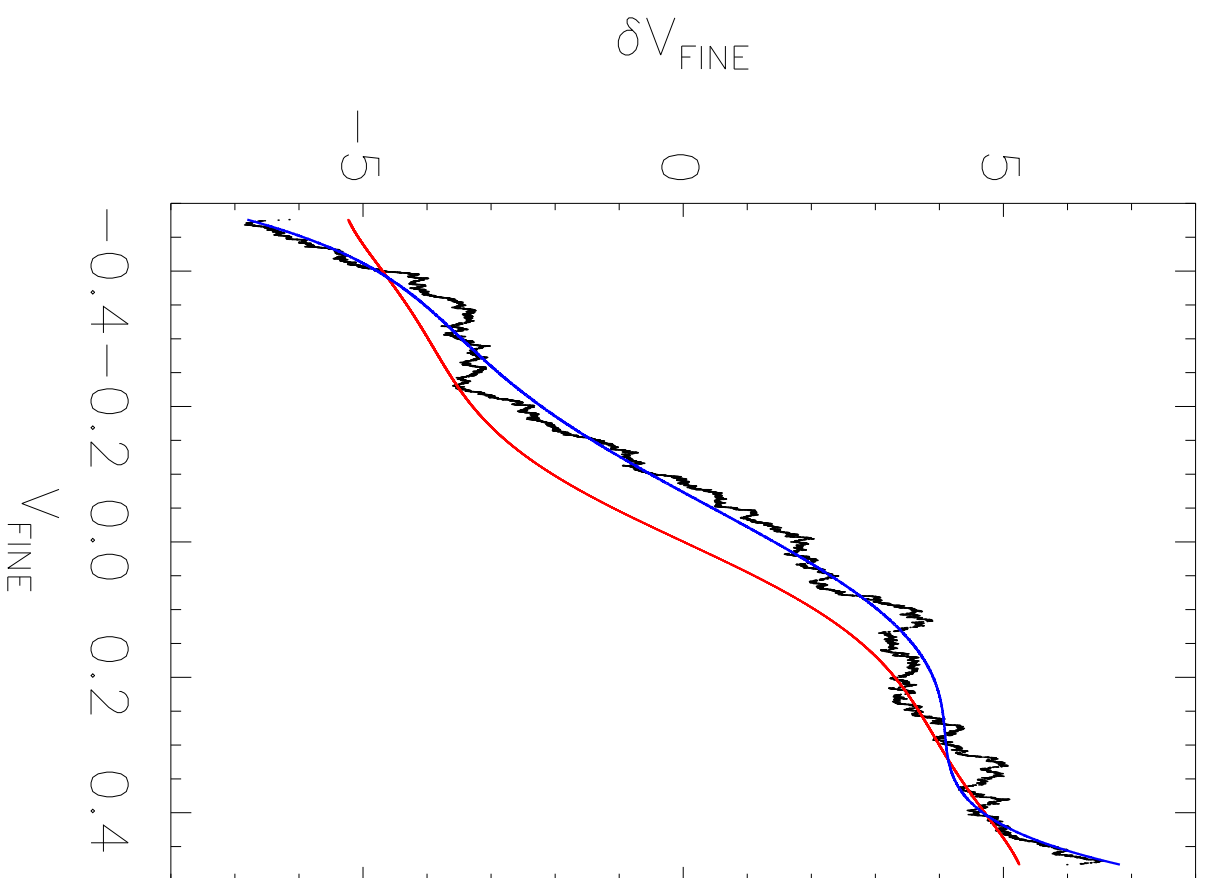
PKS 2155-304



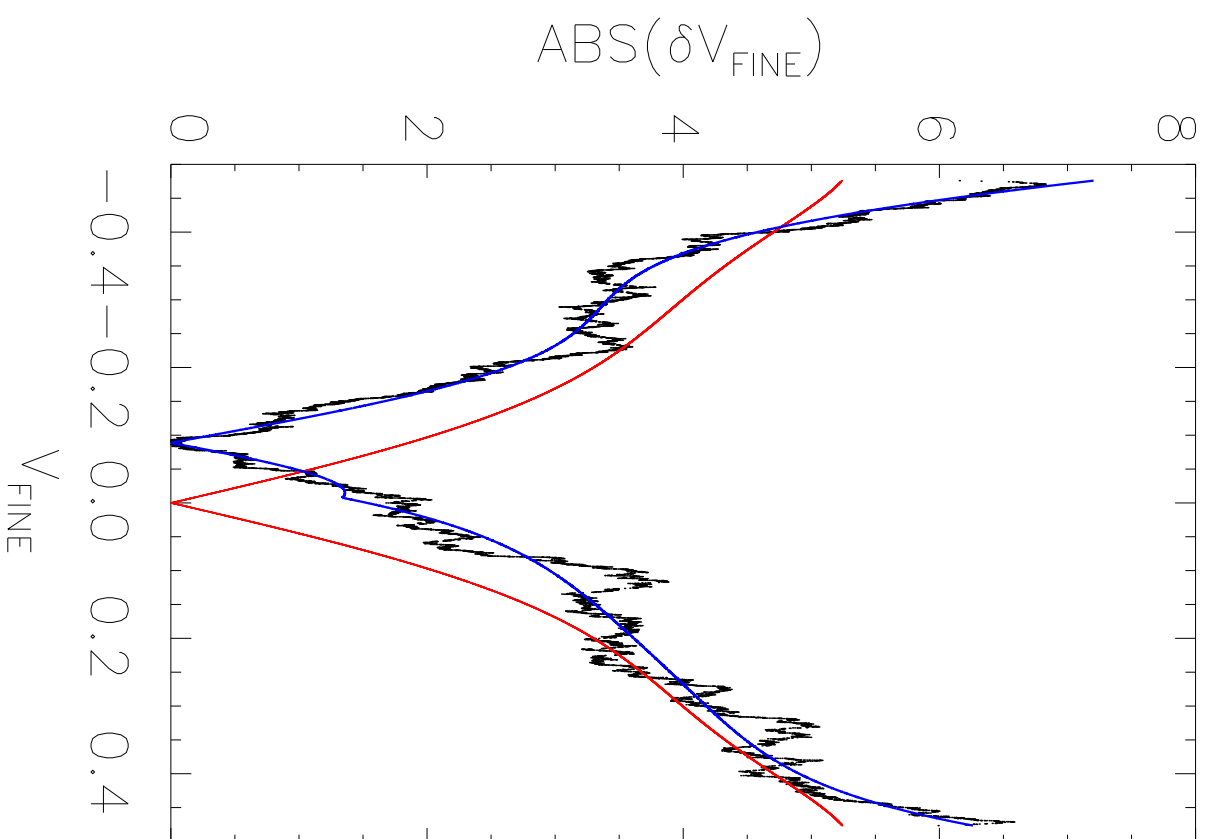
TAP # 75



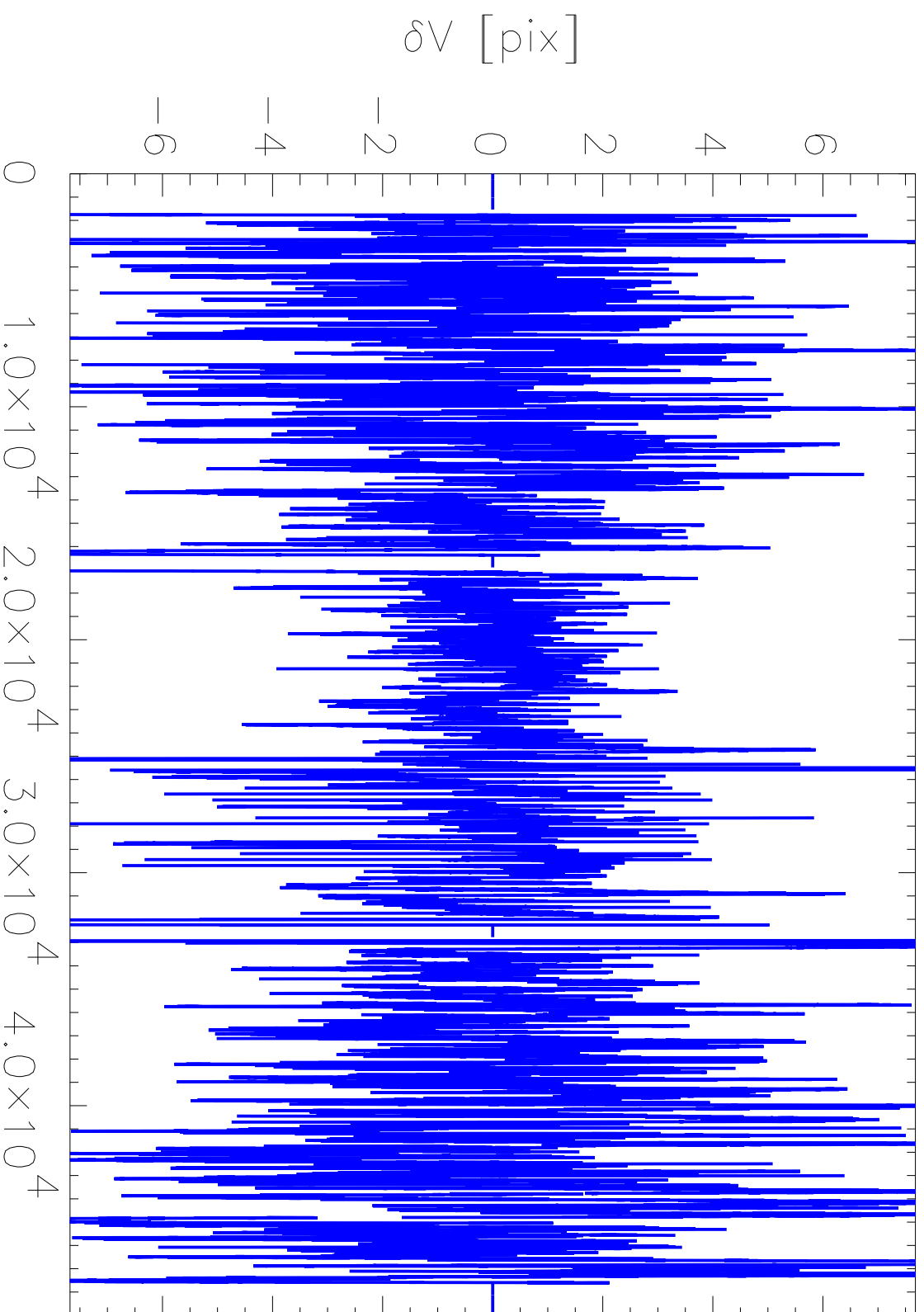
TAP# 75



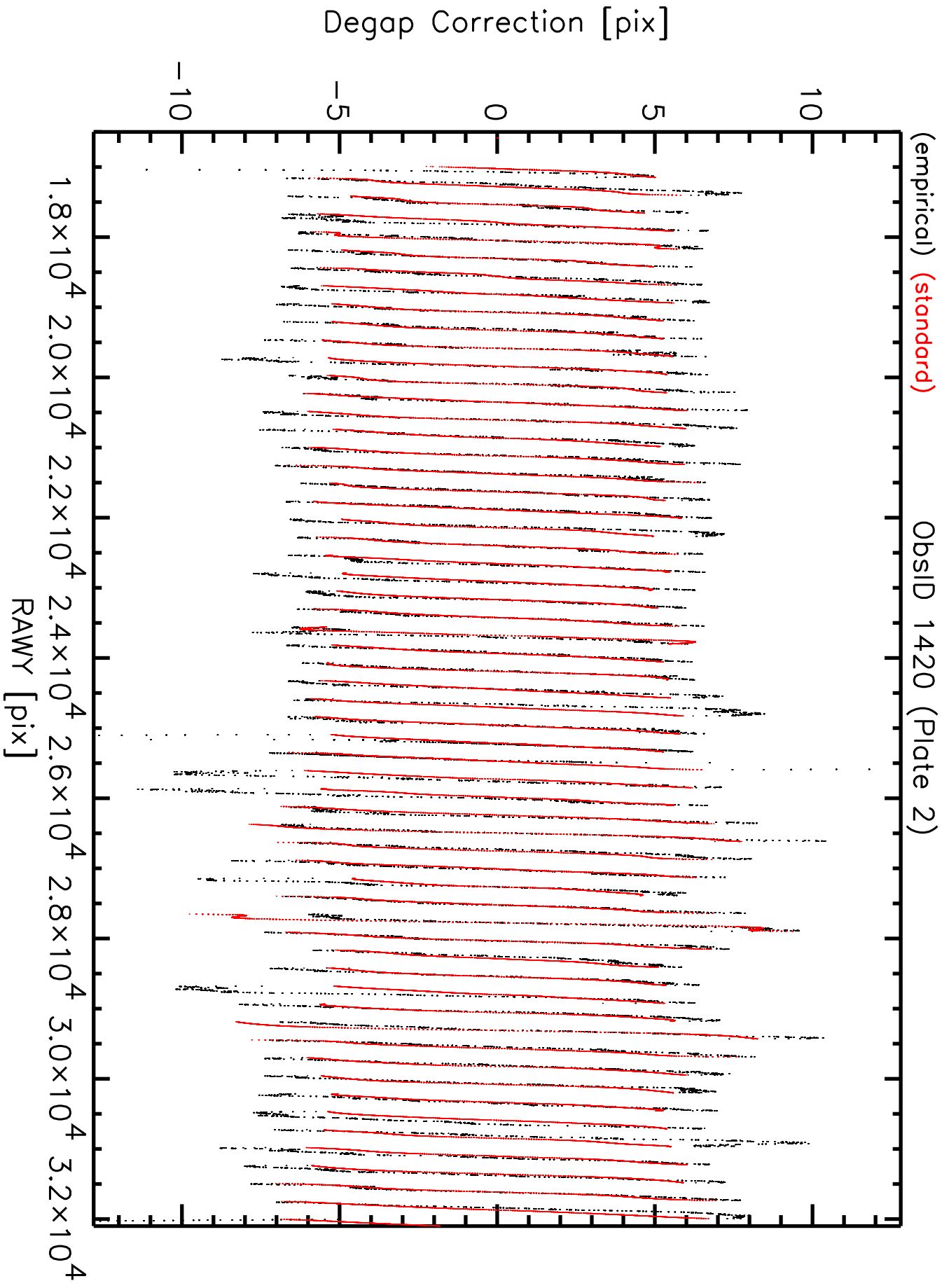
TAP# 75



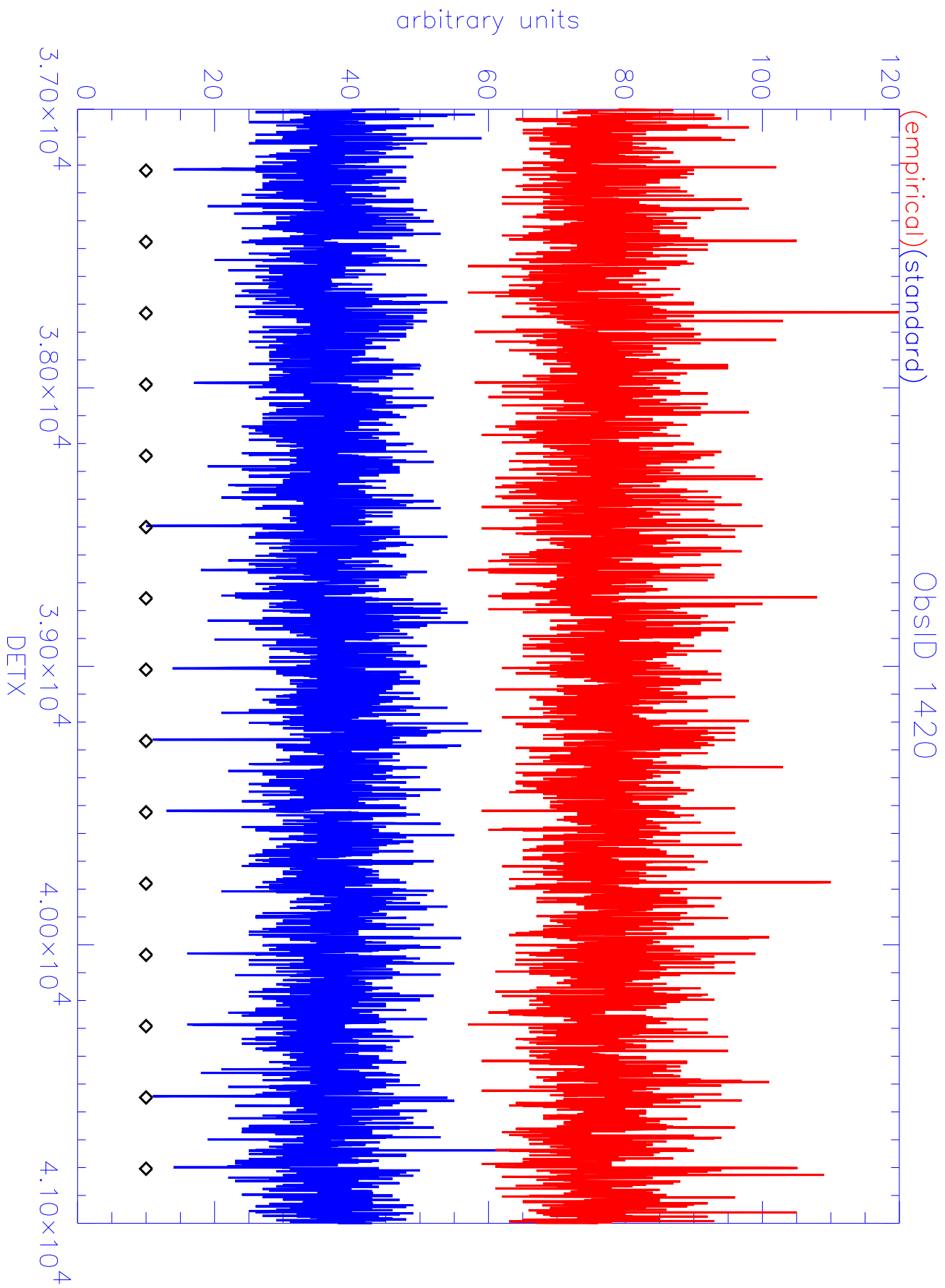
EMPIRICAL - CALDB



PKS 2155-304







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Empirical degap shifts, from continuum source  
(PKS 2155-304)

Limited to spectroscopic area of detector, but  
no evidence of variations with perpendicular tap  
or energy.

Changes event locations by ~7 pix  
~0.045 Angstrom

Insufficient to fully account for dispersion  
non-linearities

Things to do:

- include sources with softer spectra
- reduce particle background
- test for temporal stability
- include effects of gain and tap signal offsets