

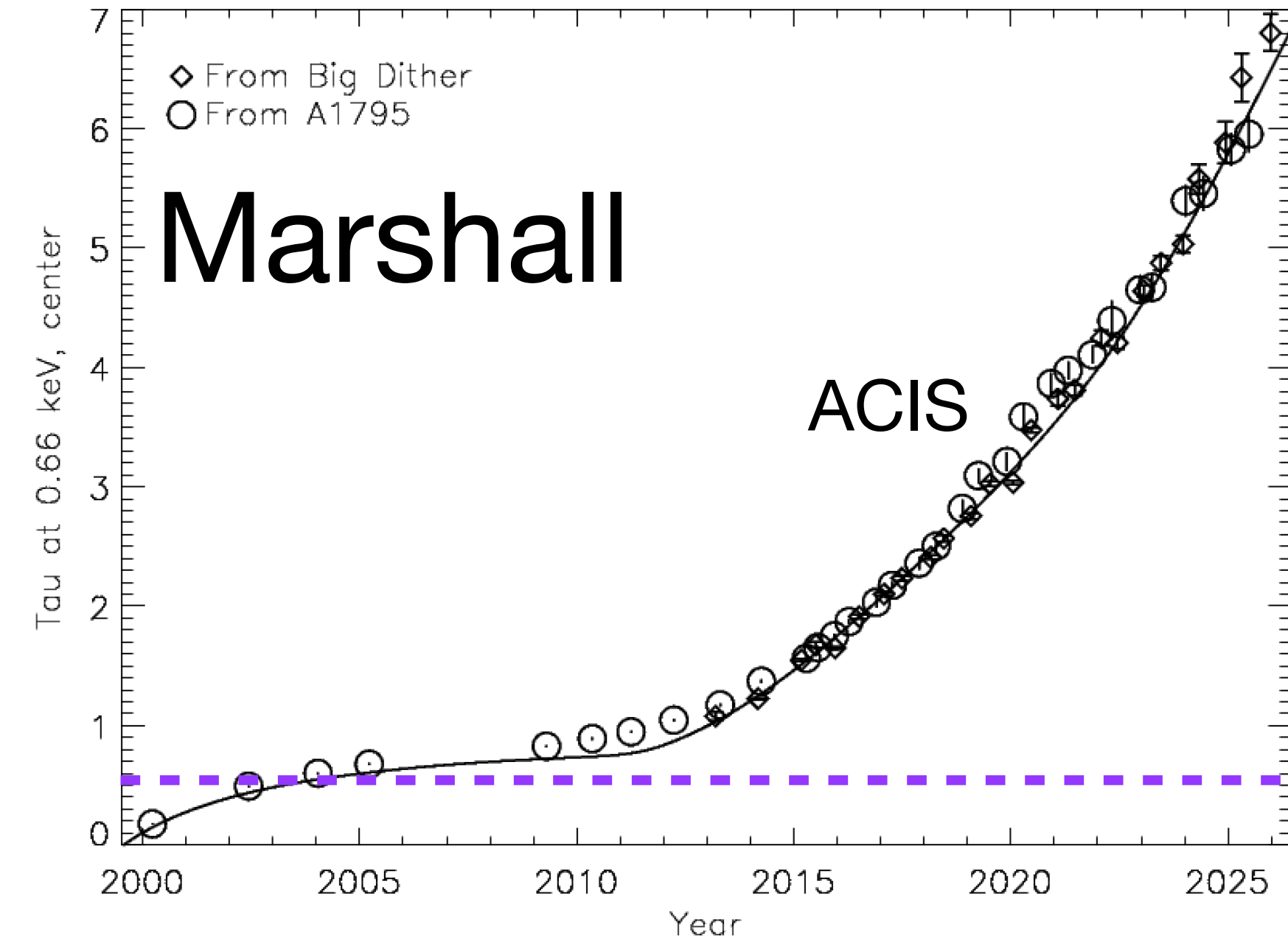
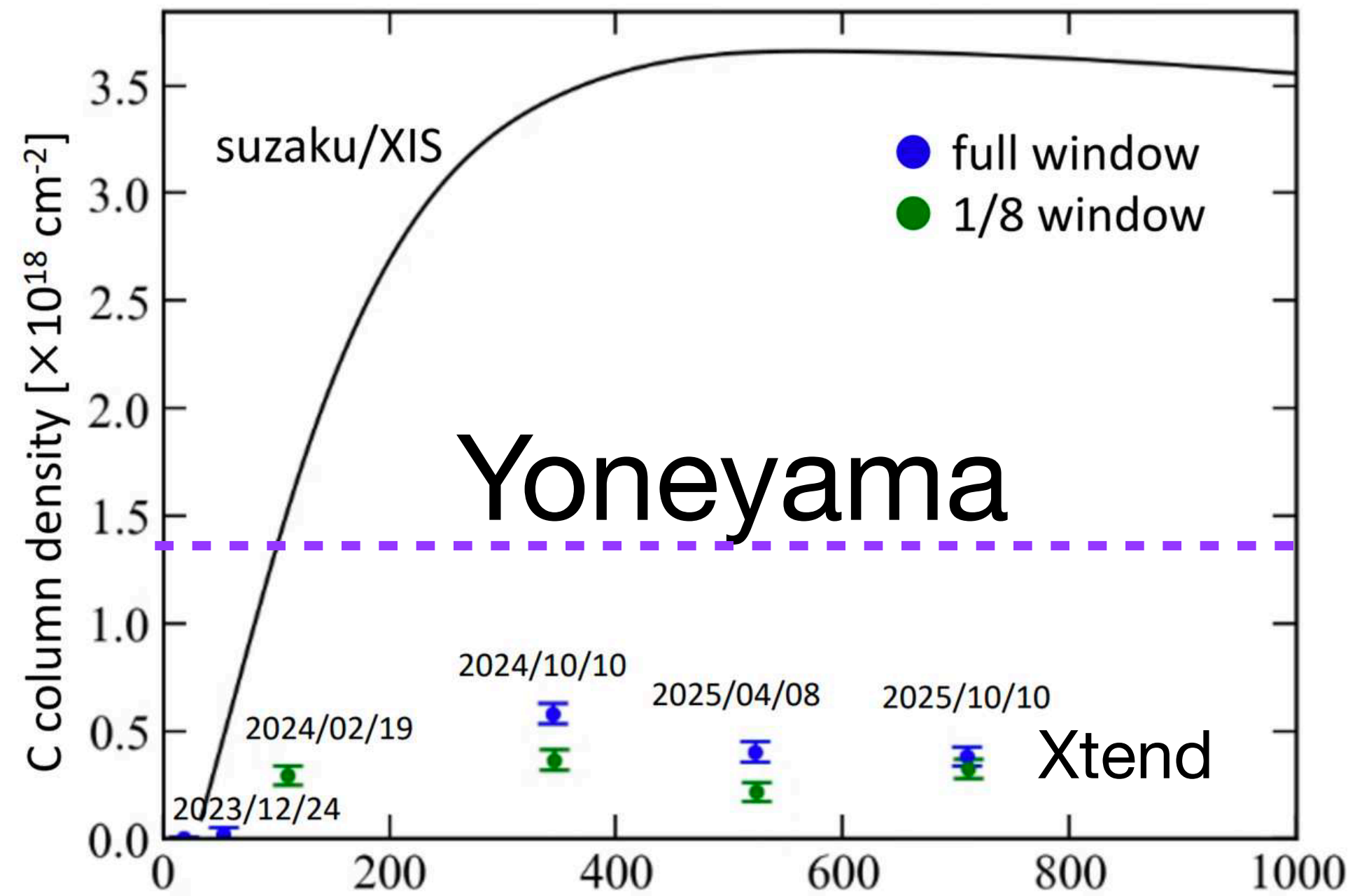
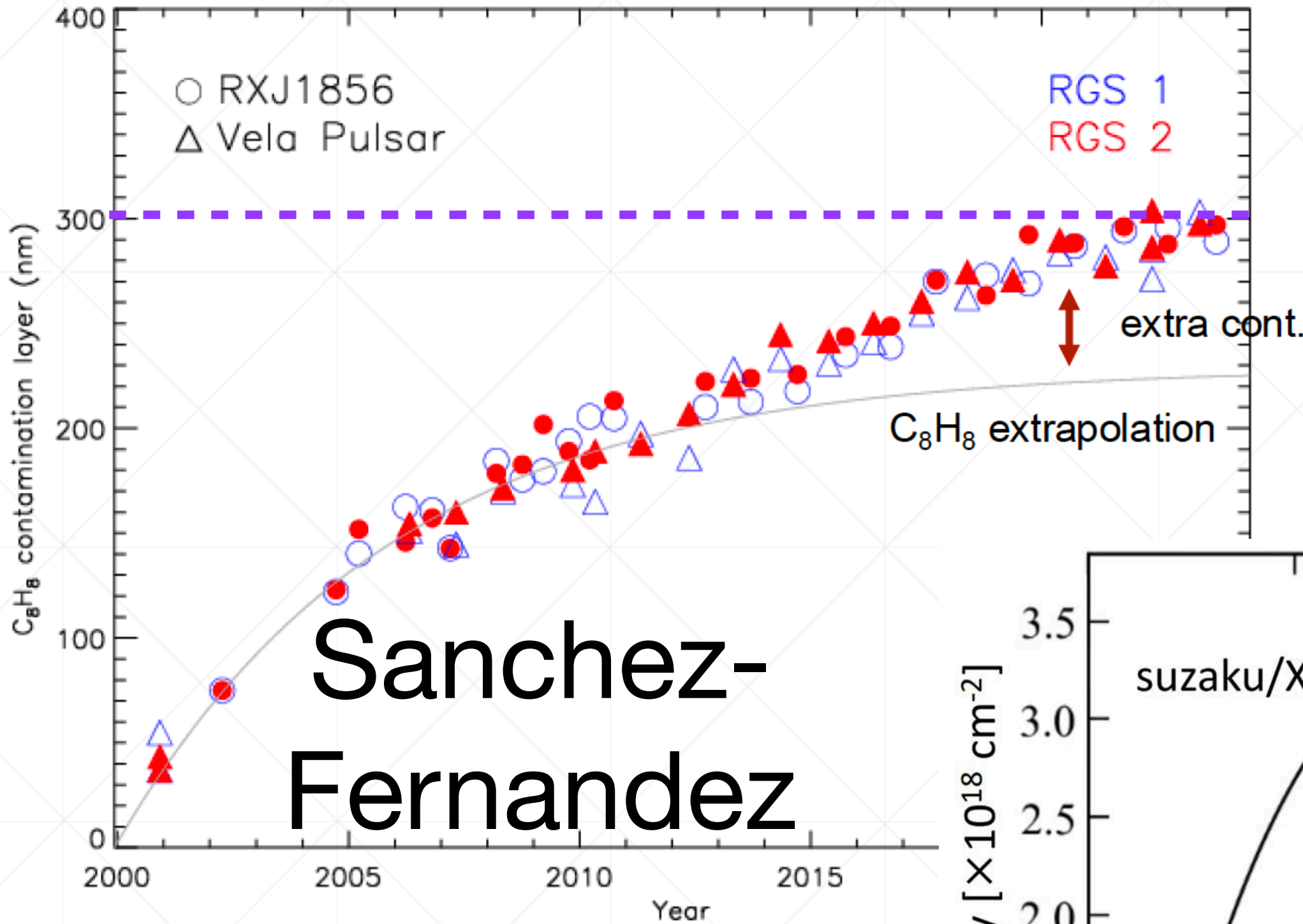
# Contamination Working Group Plan

Herman L. Marshall  
April 23, 2026

# Goals and Status

- Goals
  - Update and compare contamination models
  - Generate a white paper on mitigation and analysis
- Updates
  - Chandra ACIS (A. Bogdan, H. Marshall)
    - contamination is still growing, model needs update
  - RGS: no longer asymptotic, now increasing
  - XRISM Xtend: only limit to contamination!
- White paper authors put on notice...

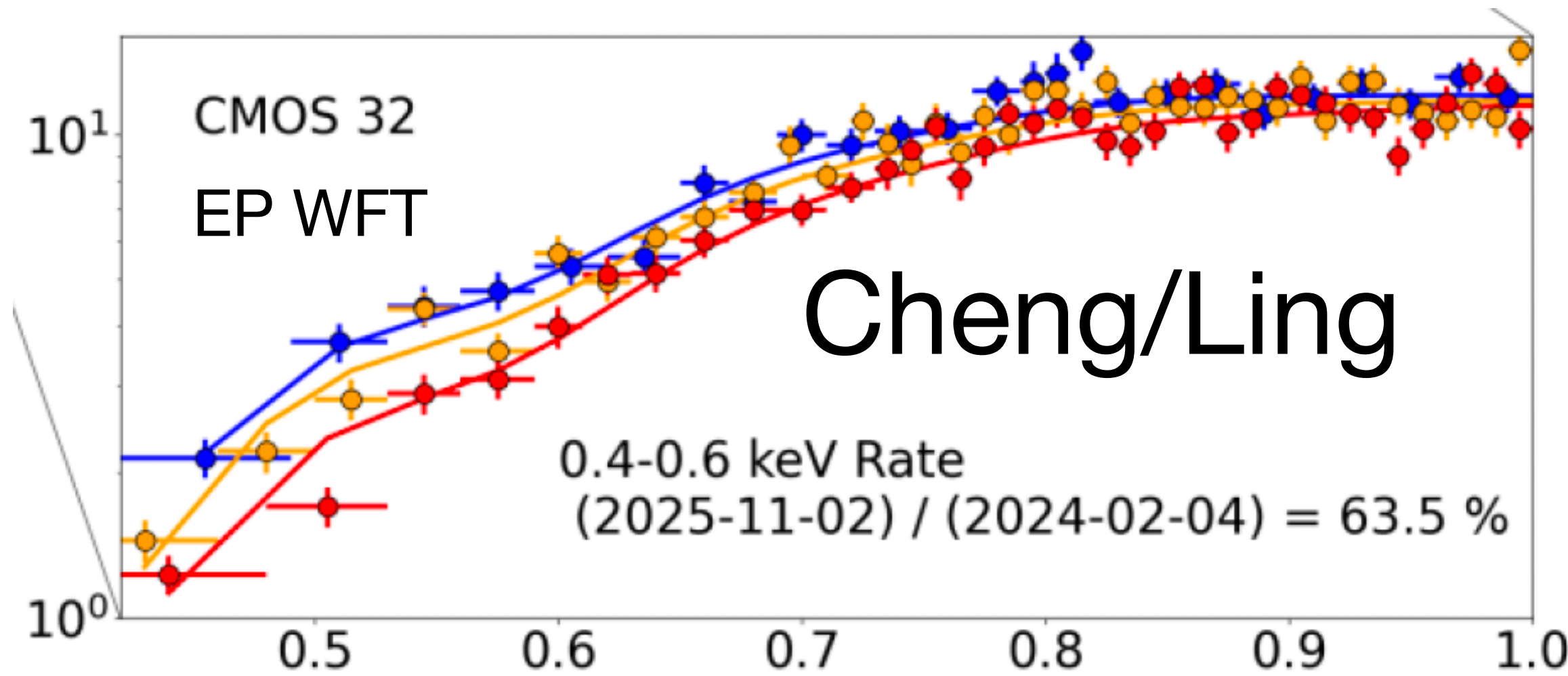
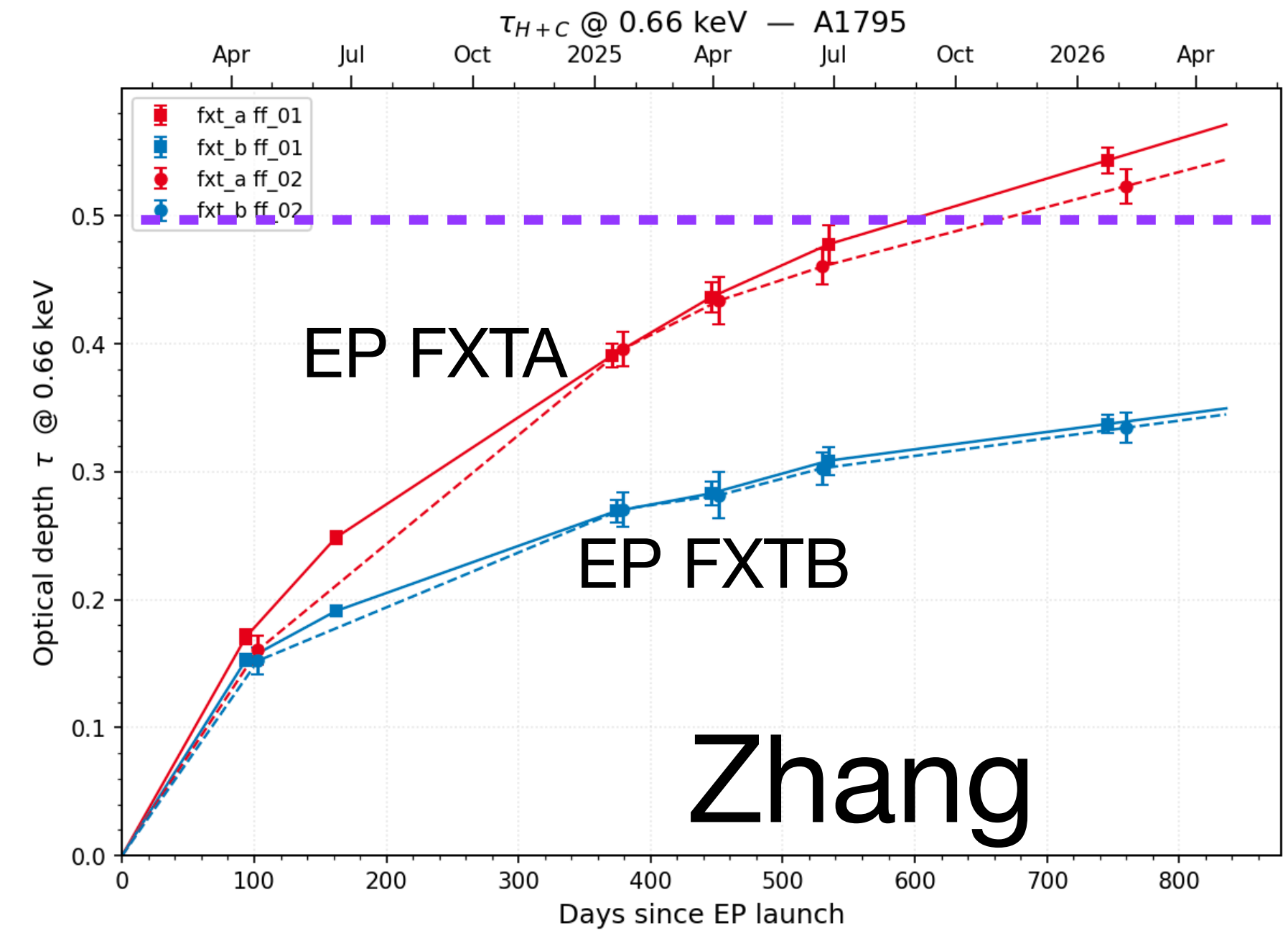
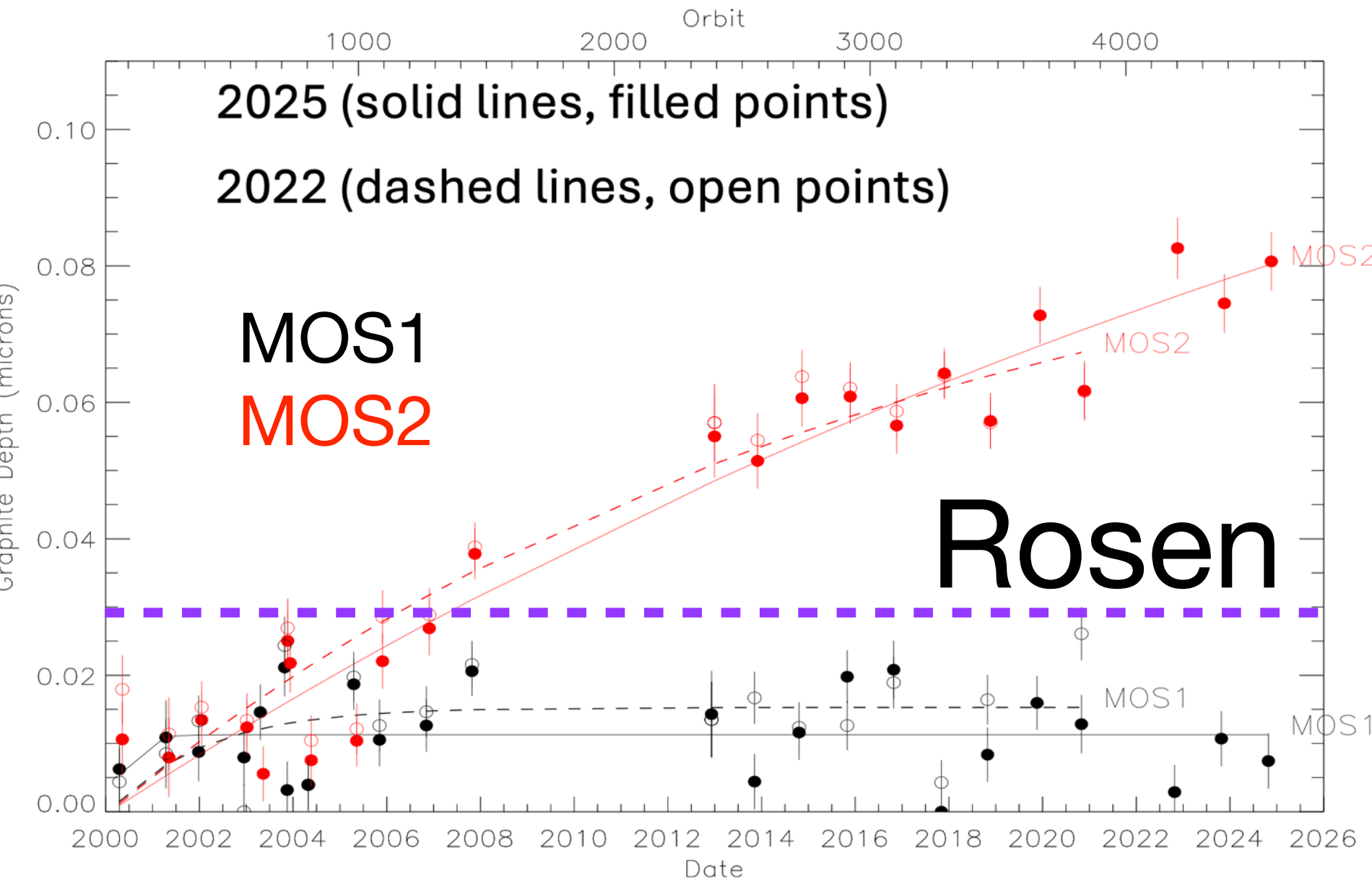
# Contamination Results (2026)



- Note different units!
- Measure  $\tau$ , infer N

- $\tau_{0.66}=0.5 \rightarrow 300 \text{ nm}$
- $300 \text{ nm} \rightarrow 1.4e18 \text{ cm}^{-2}$

# Contamination Results (2026)



- $\tau_{0.66} = 0.5 \rightarrow 300 \text{ nm}$
- $300 \text{ nm} \rightarrow 1.4e18 \text{ cm}^{-2}$

# White Paper Plan

- Develop on overleaf (link is also on #contamination IACHEC slack channel)
  - <https://www.overleaf.com/1136522653cqnsqvjcwyttq#0ed15c>
- Take time to edit today!
- Target completion by next IACHEC Plenary
- Target JATIS as journal

DRAFT VERSION MAY 13, 2025  
Typeset using L<sup>A</sup>T<sub>E</sub>X default style in AASTeX63

## Contamination on Detectors in X-ray Telescopes

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Submitted to A Very Good Journal

### ABSTRACT

We describe efforts to avoid or eliminate the buildup of molecular contamination on the sensors of X-ray astronomy telescopes. In cases where contamination has been found, we provide an overview of the nature of the contaminant and the methods of characterizing and monitoring the buildup.

*Keywords:* Astronomical methods, X-ray astronomy, Calibration

### 1. INTRODUCTION AND OBJECTIVES

- ▼ Status by Mission
  - ▼ Chandra [P. Plucinsky, with H. Marshall and A. Bogdan]
    - History of Contamination Modeling
    - Current Status of the Contamination Model
  - Rossi XTE
  - XMM-Newton [M. Smith]
  - Suzaku [E. Miller]
  - AstroSat [S. Chandra]
  - Swift [A. Beardmore]
  - NICER [C. Markwardt]
  - NuSTAR [K. K. Madsen]
  - eROSITA [F. Haberl]
  - XRISM [Coordinated by E. Miller]
  - IXPE [W. Baumgartner]
  - Einstein Probe
  - MAXI
  - HXMT
- ▼ Plans for Mitigation or Monitoring Contamination
  - Athena [A. von Kienlin]
  - SMILE/SXI [S. Sembay]
  - eXTP