

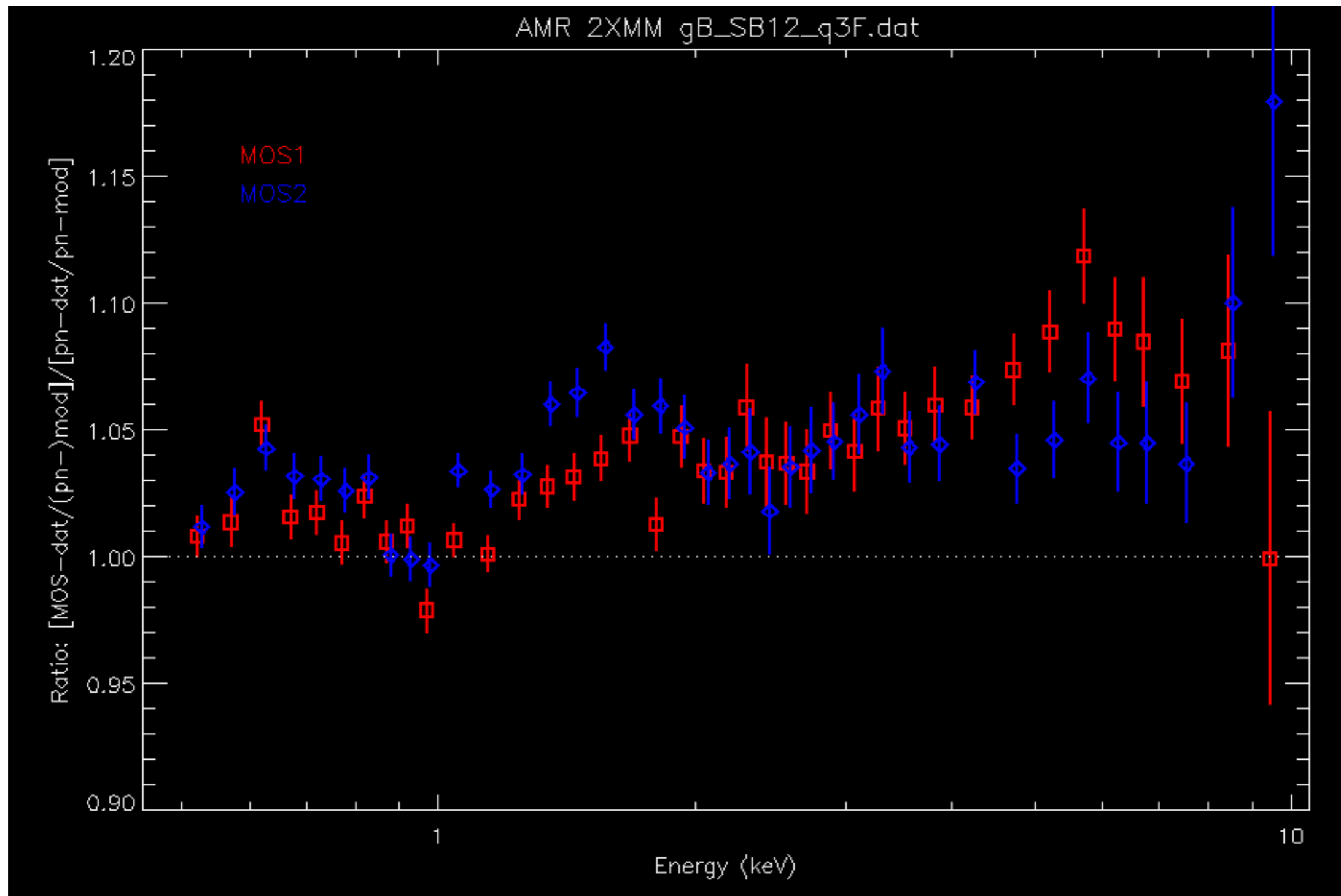
# Effective Area Cross-Calibration with Parallel Observations Summary

# Cross-Cal Summary

- **Cross-calibration with NuSTAR started**
  - Observed 3C 273 in June 2012
  - PKS 2155-304 coming up in April
- **XMM/Chandra cross-cal in stasis**
  - Contamination correction released, used
  - Chandra low E issues remain, not to be fixed
  - Offsets in XMM internal cross-cal remain
  - Should complete job, publish
- **EPIC pn cross-check with MOS{1,2}**
  - Uses 46 faint sources in 2XMM catalog

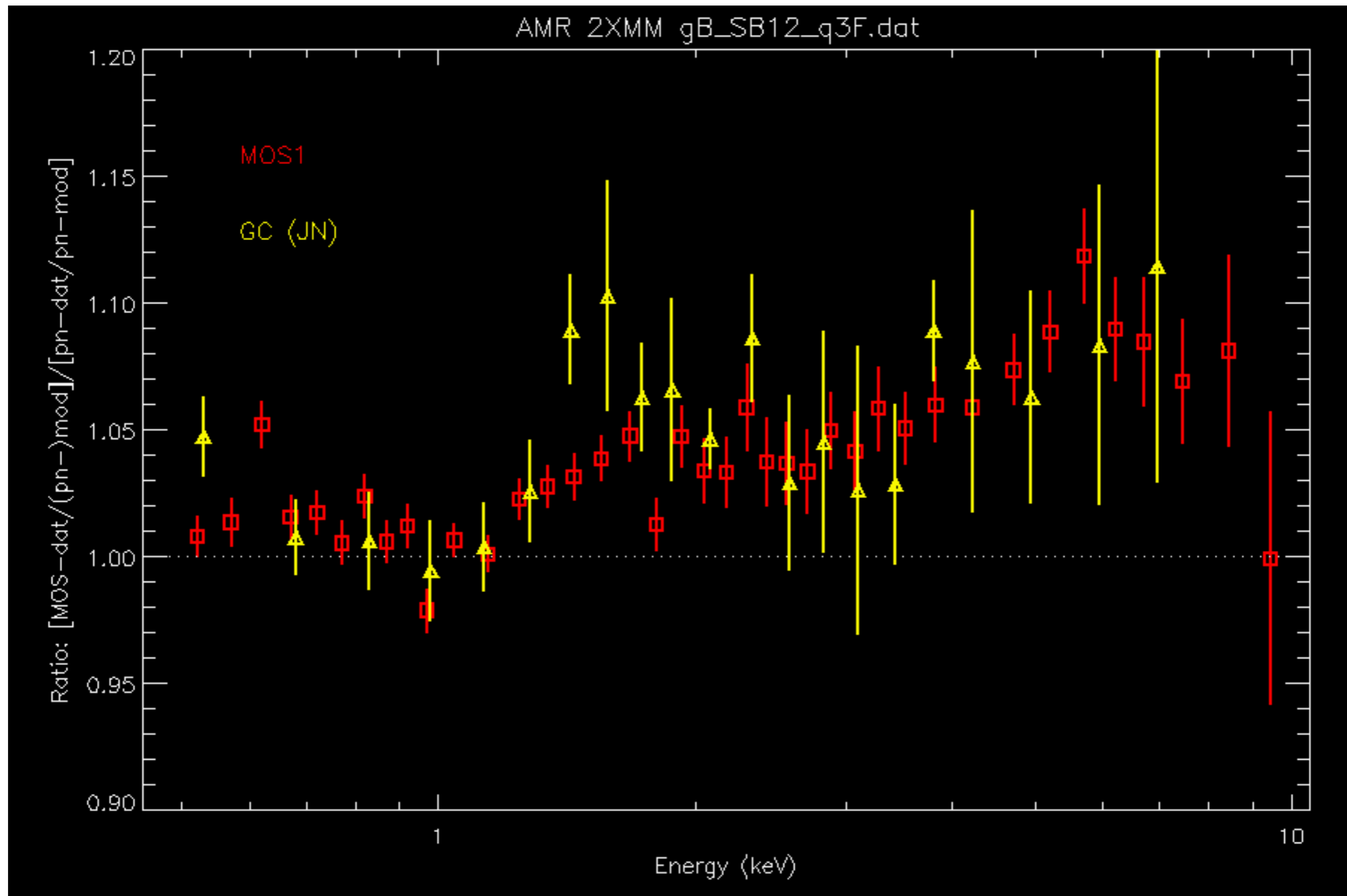
# 2XMM – MOS1/pn & MOS2/pn

Read et al.



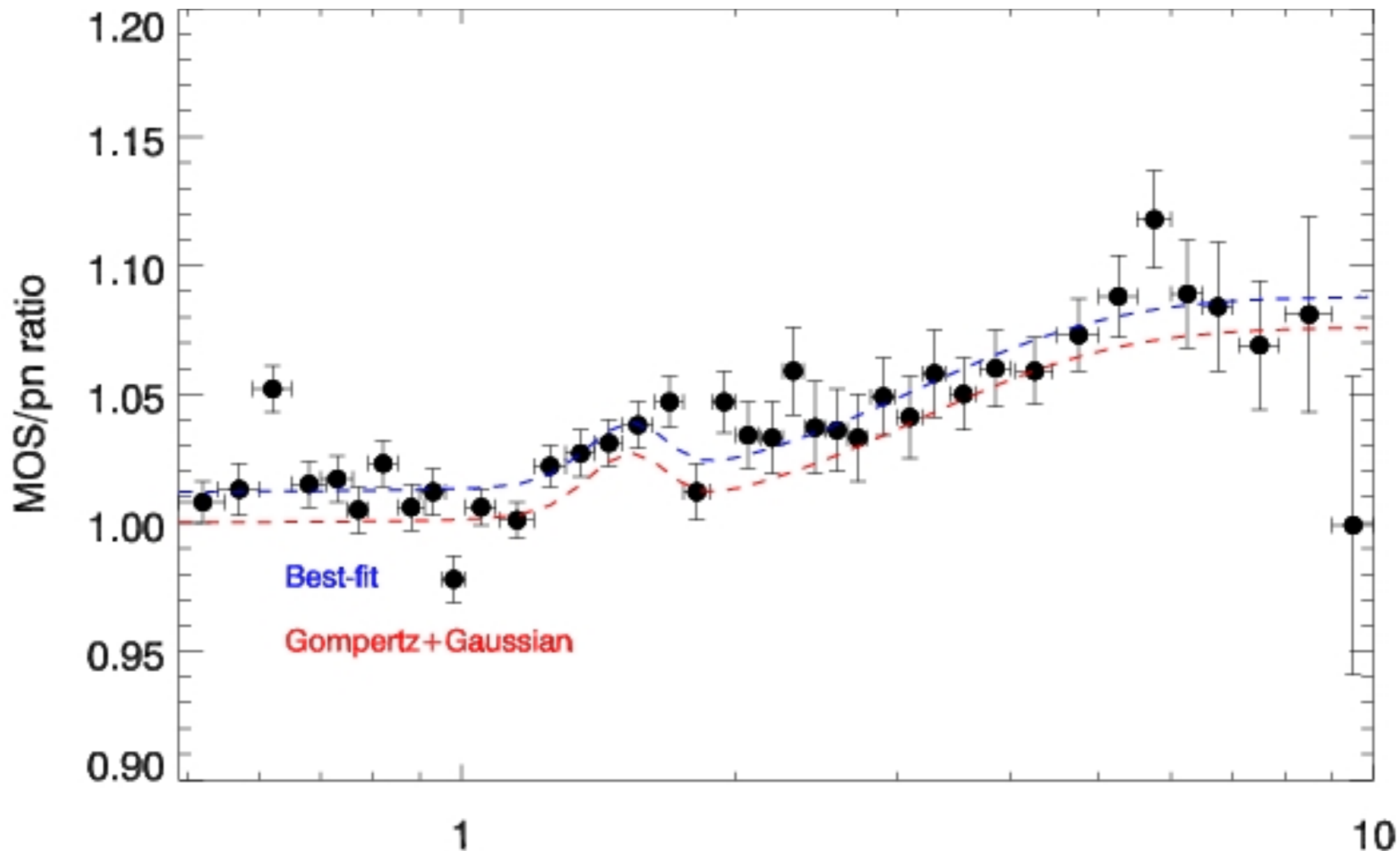
# MOS1 – 2XMM v GC

Read et al.



# 2XMM MOS1

Read et al.



# Suggestions (IACHEC 2013)

- Complete & publish XMM/Chandra cross-cal
  - Don't wait for any improvements
- Store prospective cal observations on Wiki
  - Each mission supplies list
  - HLM coordinates, posts
- High E: observe Crab simultaneously
  - Gary Case will supply reference fluxes
- Experiment with MOS/pn fixes
  - Apply fix to each separately, compare
- K. Kruse-Madsen to coordinate analyses of upcoming coordinated obsn's of PKS 2155