

# Calibration of X-ray Observatories

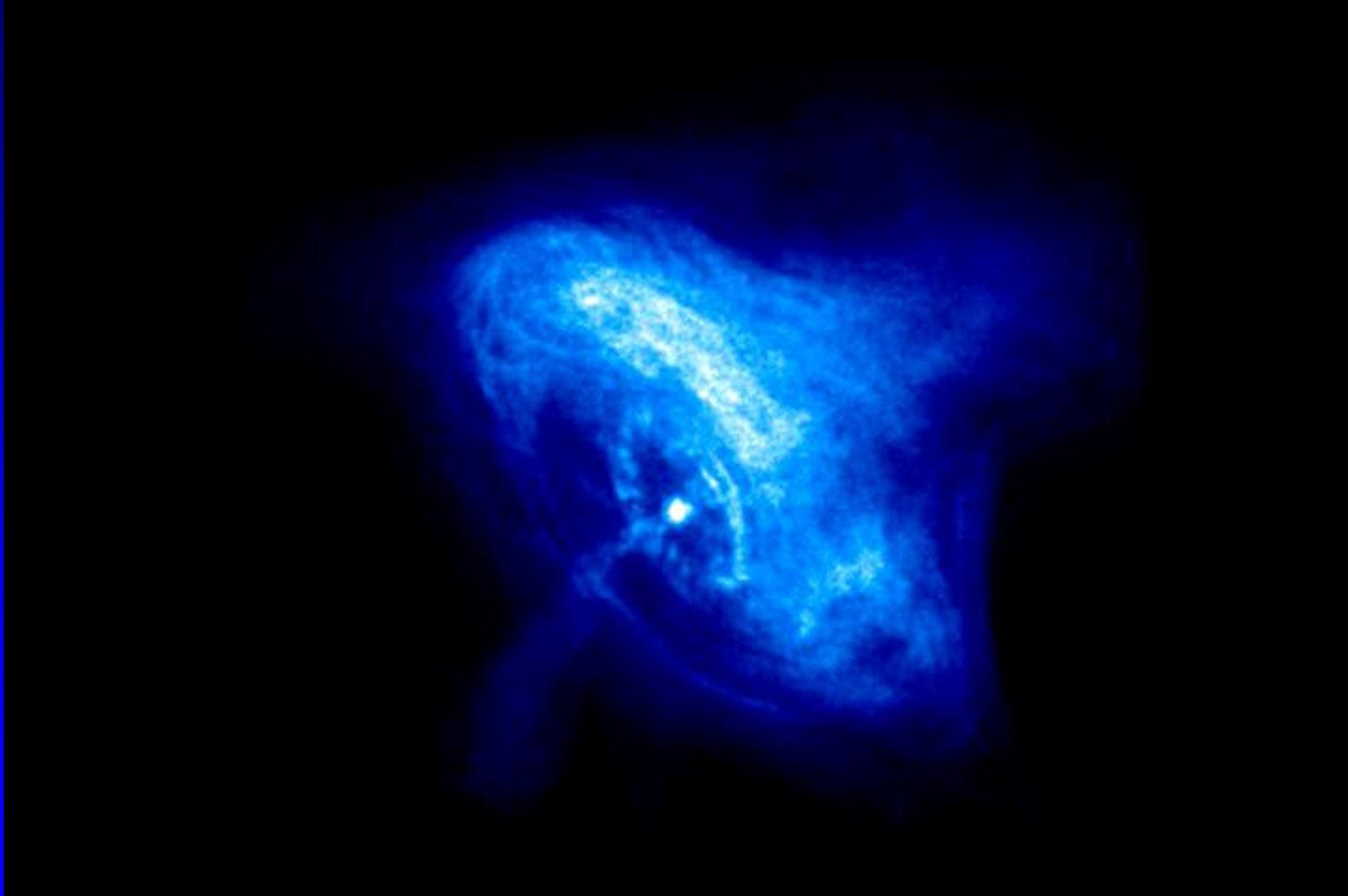
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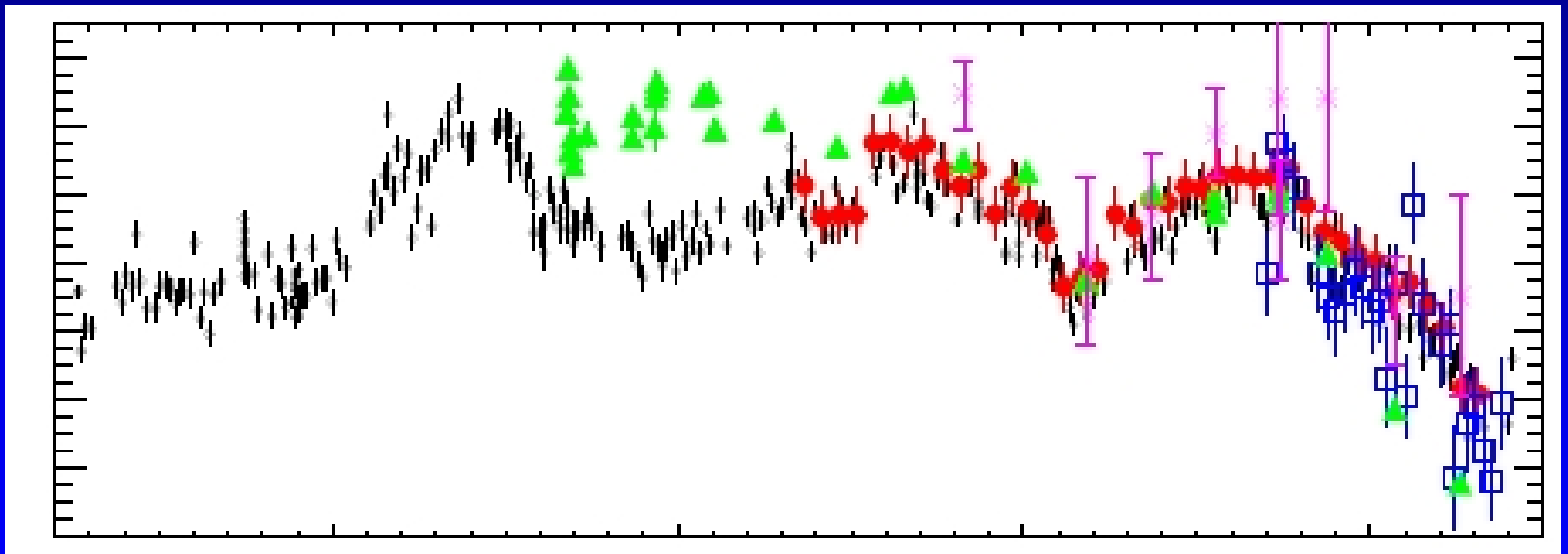


Events of the past year emphasize the challenges.





We have seen old cherished myths  
fall apart.

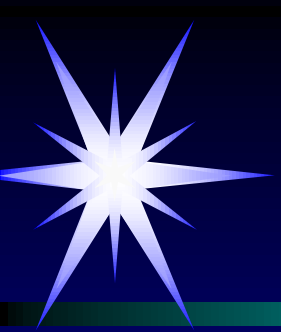


Wilson-Hodge et al. 2011



# We have begun to question certain assumptions.

- Ignoring uncertainties in response functions
  - ❑ We discussed a specific case last year.
- Over-attributing physics of our sources
  - ❑ We discussed a specific case three years ago.



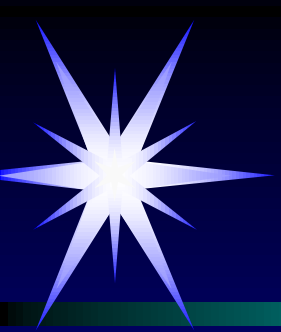
# Accurate calibration has been an elusive goal.

- Inaccuracies and inconsistencies amongst on-ground measurements
- Incomplete physical model of performance
- Differences between on-ground and in-space performance
- Changes in the in-space performance
- Absence of cosmic calibration standards whose physics we truly understand



# “The model is the calibration.”

- Approach relies upon a verified, high-fidelity model of performance.
- On-ground testing may not achieve a high-accuracy calibration of in-space performance.
- Nonetheless, approach is an essential tool.
  - ❑ Verifies functionality, characterizes performance, and tests the model.



We should seriously consider an in-space calibration standard.

- Form a subgroup to define the questions.
- Identify and establish long-term goals.
- Report back next year.