



Instrument Working Group Agenda

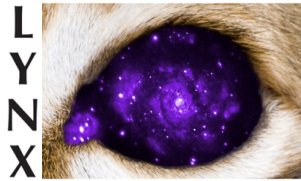
- Introduction *Mark Bautz*
- Instrument updates: technical status & trade spaces
 - X-ray Microcalorimeter *Simon Bandler*
 - High Definition X-ray Imager *Abe Falcone*
 - X-ray Grating Spectrometer *Randy McEntaffer/
Ralf Heilman*
- Discussion

Theme: We can't wait!

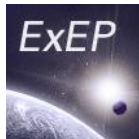


IWG Activities

- Assessed instrument technology readiness
- Reviewed existing technology development plans
- Issued call for community participation
 - 20+ members (15 μ Cal, 3 HDXI, 5 XGS, 1 response function)
- Convened instrument-specific working groups
- μ Cal began GSFC Instrument Design Lab preparations



IWG Timeline is Critical !



ExoPlanet Exploration Program

Study Deliverables

All products delivered to APD Deputy Division Director



| | | |
|-----------|---|-----------------------------------|
| M1 | Comments on Study Requirements and Deliverables <ul style="list-style-type: none">– Accept the study requirements/deliverables and submit plan--- or– Provide rationale for modifying requirements/deliverables | April 29 2016¹ |
| O1 | Optional: Initial Technology Gap Assessment <ul style="list-style-type: none">– To impact PCOS/COR/ExEP 2016 technology cycle | June 30 2016 |
| M2 | Detailed Study Plan <ul style="list-style-type: none">– Document starting point CML– Deliver detailed study plan for achieving Decadal CML– Deliver resource required to meet the deliverables for the study duration– Deliver schedule to deliver milestones | August 26 2016 |
| M3 | Complete Concept Maturity Level 2 Audit <ul style="list-style-type: none">– Identify, quantify and prioritize technology gaps for 2017 technology cycle | February 2017² |
| O2 | Optional: Update Technology Gap Assessments | June 2017 |
| M4 | Interim Report <ul style="list-style-type: none">– Substantiate achieving Concept Maturity Level 3– Deliver initial technology roadmaps; estimate technology development cost/schedule | Early Dec 2017² |
| M5 | Update Technology Gap Assessments <ul style="list-style-type: none">– In support of 2018 technology cycle | June 2018 |
| M6 | Complete Decadal Concept Maturity Level 4 Audit and Freeze Point Design <ul style="list-style-type: none">– Support independent cost estimation/validation process | August 2018 |
| M7 | Final Report <ul style="list-style-type: none">– Finalize technology roadmaps, tech plan and cost estimates for technology maturity | January 2019 |
| M8 | Submit to Decadal | March 2019 |

¹APD will provide final study requirements by May 2016 (see "Near Term Activities")

²Timed to influence following NASA budget cycle



IWG Timeline is Critical !

- IWG has more to do in 4 ½ months than we've done since inception
- Between May 24 (key observations defined) and October 9 (M4 report red team review) we must:
 - Define preliminary instrument requirements & identify top trades
 - Conduct trade studies, refine requirements
 - Support 2018 technology gap assessments
 - Develop instrument technology development plans
 - Support ACO and IDL studies to develop point designs & estimate engineering resource requirements
 - Support M4 report preparation
- The IWG
 - Is eager to support SWGs in defining key observations; call us!
 - Needs to get to work on key trades as soon as possible