Far Infrared Next Generation Instrumentation Community Workshop

March 23, 2017
Take-Aways

General:

• Important to make sure a report from this workshop is provided to NASA
  – FIRSIG Workshop Report Circulated to the Community first for further comment
    • Espec. Balloon PIs to comment/add to
  – Make it ready as input the COPAG’s TIG/Technology Interest Group (1\textsuperscript{st} Meeting in June – check with TIG chairs)
  – Need FIRSIG membership on the TIG
Take-Aways

SOFIA:
• Strategy for “rapid response” (eg. days’ response supernova) for SOFIA is encouraged
• 3 years from flow of money to delivery is a minimum time for a SOFIA instrument (allows for tech development)
• Standard Cryostat option is attractive
  – The drawings would be most welcome (vs. hardware)
• Common software
• International Cooperation is desired and needs to be allowed
  – Past experience for partnership has been difficult ; except for Collaborations
  – Benefits of stability
  – Suggestion of NASA/DLR joint call
• PI Instrument emphasized, or a joint University-Center / University consortium
  – More training, more students
• Lower the barriers to getting instruments on SOFIA is desired
• Preference for a 2 step proposal process
Take-Aways

Balloons

• Balloon is a different model to SOFIA
  – They both have strengths and weaknesses. Comparing them is like comparing apples & oranges.

• Standardize gondola?
  – Ask the instrument builders not just balloon PIs.
  – Could this expand the community?

• Balloon cadence is improving, can potentially be staggered every other year.

• The General Observatory Balloon, with becomes a reality, will need a science center.
Workshop Goals

At the end of today, we’re looking for an agreement on...

– 3 things you would like to see in the next SOFIA instrument (solicitation is coming out this summer!)
  • Graduate Students involvement
  • 2 Steps, PDR within 3-6 months after start of project
  • Allowing PI instrument model (finding avenues to make this happen)
  • Foreign Collaboration (language encouraging)
  • Science from community drives the desired instrument proposal

– 3 things you would like to see in FIR technology / instrumentation / instruments on other platforms
  (1) Detectors
  (2) Larger Pixel Count - factor of 10 above the current state of art
     (Future: OST need $10^5$ direct detectors, 100 for heterodyne)
  (3) Large format cryogenic readout technology
  (4) Low power electronics