

To: Alan Boss, Chair NAC Astrophysics Subcommittee
Re: JWST
From: Garth Illingworth

Hi Alan

I listened to some of the APS meeting (as much as I could since it overlapped with another meeting).

I thought that there was lots of good discussion and questions. However, I came away concerned that it seemed like some of the members may not have grasped the seriousness of the current situation and the truly awful long-term consequences for Astrophysics if JWST is not restored. The current Astrophysics budget has now decreased to basically that of Heliophysics (its just 10%-15% more!). And it won't increase back to near its previous level unless JWST is funded and launched...

With such a budget Astrophysics is guaranteed to be a truly limited program with no major mission possibilities. Jon Morse tried to give an upbeat presentation, but when you look at it realistically the future is awful. No JWST means no WFIRST, it means no IXO (or major X-ray mission), it means no LISA, no significant post-Kepler Exoplanet missions, no future major UV/Optical/IR missions, etc. SOFIA will be our big program, once HST and Chandra die, along with small missions. This is a devastating retreat from where we are now, and certainly from where we would be with JWST. Having JWST would leave us with a budget wedge in the future for new things when JWST finished and is launched.

I was concerned also that some of the comments suggested that some seemed to think that the APS should ask for both JWST and a strong Astrophysics program. I sympathize. I would love to be in this situation, but a statement like this at this time sends a "scientists want everything" and a "business as usual" message that will most likely result in your recommendations being largely ignored.

I think its most effective to fight one battle at a time, and it is clear that the long term future is either (1) a budget large enough for major missions or (2) a budget that does little that is interesting. The first absolutely requires JWST to survive, and be completed, so that there is a post-JWST funding wedge in our future. The second will be there for us unless we all push very strongly and consistently for JWST.

There is no doubt a price to pay to complete JWST, but NASA top management have repeatedly stated that Astrophysics will not be required to pay for all of any additional funds that are needed for the JWST replan and a 2018 launch. "Who pays" is clearly a "discussion in progress" within the agency, but I think Ed made a very good point. SMD has routinely contributed (and lost funding) when other parts of the agency needed funds at critical times in the past decade. Other divisions in SMD have also contributed when major programs within SMD needed extra resources. Thus there is a tradition of shared pain. JWST is an agency responsibility. It will be, like Hubble, a very clear demonstration of NASA doing what no others can do. The added funds to finish JWST should come from a variety of places in the agency and not just from SMD. It is both fair to do so, and in the agency's best interest. Astrophysics will share in the pain in the short term, but be much better positioned for a long-term future if JWST goes ahead for a 2018 launch.

I have stated the options bluntly but I truly believe these to be the case given the current political situation. We are at a make-or-break point for Space Astrophysics and the key factor is whether JWST continues to launch or whether it does not.

best regards
Garth