

Five Things I Think I Think About WFIRST*

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*Or at least thought before Today's Presidential budget release

1. Just do it

- 7 years to build, but the US version has been "under design" for twice that. Funding wedges come and go, be ready.
- Sign off on a best, present design, put the ball back into NASA/Congress's court to find funding and get started sooner. Now NASA can say scientists are still fiddling with the design. Change that dynamic.

2. Survey the other half of the sky

- Euclid, WFIRST each plan a 15,000 sq deg survey. Agree on complimentary survey regions (interleaved?) to cover 30,000 sq degrees. A little overlap ok, but H-alpha z's do not need to be measured twice!
- Getting full sky from two missions reaches the only real limit in the dark energy game; the cosmic variance limit.

3. Wait to plan the observing

- Notional observing plans are good. But a wiser allocation of time, PI's can be made 2 years before launch when more will be known about dark energy and exo-planet statistics.
- Community more interested if GO time, PI-ships are not given away so early.

4. A NIR Survey that can't be beat

- 10 years from now with more ground, Kepler data dark energy and exo-planets may be more or less interesting.
- But no ground-based survey can touch the WFIRST NIR survey due to sky brightness. Focus on NIR survey and WFIRST will be a game-changer in 10 years.

5. Cosmology is hard, testing is crucial

- Who would have believed the Universe was accelerating from only one team (or ultimately one technique)?
- Consider independence of Euclid, WFIRST as minimal, necessary cross-check for a *surprising* result (see superluminal neutrinos).
- Especially for weak-lensing which has been hard to accomplish, you wouldn't believe the result until you saw it from both missions.