

Progress Report from the WFIRST Science Definition Team

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And

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Our Charter

“The SDT is to provide science requirements, investigation approaches, key mission parameters, and any other scientific studies needed to support the definition of an optimized space mission concept satisfying the goals of the WFIRST mission as outlined by the Astro2010 Decadal Survey.”

Our Charter

“In particular, the SDT report should present assessments about how best to proceed with the WFIRST mission, covering the cases that the Euclid mission, in its current or modified form, proceeds to flight development, or that ESA does not choose Euclid in the near future.”

Our Process

The SDT has established sub-committees to develop figures-of-merit for each science goal, and establish science requirements. The inputs from all of the subgroups will feed into an overall mission Design reference Mission (DRM) that will be incorporated into our June Interim report. The June report will be used by NASA as a guideline for future funding requests and/or international partnerships.

Sub-committees

Exoplanet Microlensing

High Latitude Survey (Baryon acoustic oscillation, Infrared survey and weak lensing)

Supernovae as a probe of the expansion history

Galactic Plane survey and Guest Observer program

A list of team members is included as supplemental material at the end of this presentation

Our Big Issue

The proposed FY12 budget has no funds for flight development of WFIRST in FY12 or any of the out years, and we are faced with a set of conflicting requirements:

- 1: Maintain the science return of WFIRST as outlined by the NWNH
- 2: Launch by 2021 (the estimated development schedule is 7 years)
- 3: Reduce the cost to an “acceptable” figure, although we have received no direction as to what constitutes an acceptable cost.

Sub-committee Membership

(external members in italics)

Exoplanet Microlensing: Dave Bennett, Bob Brown, Scott Gaudi, Takahira Sumi, Angelle Tanner and *Jay Anderson, Eamonn Kerins, and Jonathan Lunine*

High Latitude Survey: (*Baryon acoustic oscillation, Infrared survey and weak lensing*): Rachel Bean, Chuck Bennett, Chris Conselice, Jason Rhodes, Tom Roellig, Yun Wang, Ned Wright, *Chris Hirata and Zeljko Ivezic*

Supernovae as a probe of the expansion history: Charlie Baltay, Tod Lauer, Bob Nichol, Saul Perlmutter, *Peter Garnavich, Mark Phillips and Adam Riess*

Galactic Plane survey and Guest Observer program: Megan Donahue, Daniel Stern, *Kem Cook, Roeland van der Marel, George Rieke, Lynne Hillenbrand*