

Dear Colleague Letter to Solicit Application for a Science Definition Team for the
Astrophysics Focused Telescope Assets Study
August 31, 2012

Dear Colleague,

The National Reconnaissance Office (NRO) has recently transferred to NASA optical hardware the equivalent of two Hubble-class optical telescopes. The description of these telescope assets can be found at <http://science.nasa.gov/science-committee/subcommittees/nac-astrophysics-subcommittee/> (click on the presentation by Moore for the July 30-31 2012 meeting). With this Letter NASA is soliciting applications from interested individuals in the astrophysical community for the formation of a Science Definition Team (SDT). The SDT will assess the possible scientific use of one set of the ex-NRO telescope assets for advancing the science priorities of the 2010 Astrophysics Decadal Survey (*New Worlds New Horizons*; available at http://sites.nationalacademies.org/BPA/BPA_048094).

Applications are due to NASA by September 19, 2012, 5pm EST. Only email applications of a single PDF file will be accepted.

The application material should consist of:

- A cover letter describing the reasons for the submitters' interest in the SDT and the capabilities and experiences that they bring to the SDT
- A statement of commitment to perform the tasks assigned to the SDT within the allocated timeframe, and
- A one-page resume.

Individuals interested in serving as Chairs of the SDT are encouraged to include a statement to this effect in their cover letter.

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 (Design Reference Mission) for the use of one of the telescope assets by the Astrophysics Division to further the science priorities described in NWNH for a wide field infrared survey telescope and for the detection and study of exoplanets. Among the products to be produced by the SDT, working with the Wide Field Infrared Survey Telescope Study Office (WFIRST), will be a Design Reference Mission (DRM) that includes:

1. A baseline Design Reference Mission (DRM) which uses one of the telescope assets "as is" and is technically viable for a launch by calendar year 2022 if funding starts for implementation in fall of 2016 (beginning of government fiscal year 2017). Overall mission cost is to be kept as low as possible while still achieving all or part of the science priorities for a wide field infrared survey telescope.
2. Options to the baseline DRM that include the following:

- a. Internal coronagraph instrument to advance the science priorities described in NWNH for the detection and study of exoplanets;
- b. Modular spacecraft design that might enable
 - i. Reduced development costs, risks, or schedule,
 - ii. Robotic servicing, or
 - iii. Commercial servicing beyond low Earth orbit;
- c. Possible orbits, in particular high Earth orbit and geosynchronous orbit to support servicing;
- d. Optical communications to transmit large data volumes; and
- e. Opportunity to utilize the Space Launch System (SLS).

The findings of the SDT will be provided in a final report to NASA no later than April 30, 2013. A detailed description of the SDT statement of work, structure, and milestones is provided in the preliminary version of the Charter, available at <http://wfirst.gsfc.nasa.gov/>. Interested applicants are strongly urged to become familiar with the Charter's content before submitting their applications. The Charter will be finalized once the SDT is assembled and the Chair(s) is (are) appointed.

Applications are solicited from U.S.-based research and academic institutions, Government laboratories, and industry. Only U.S. persons (for the purpose of ITAR, i.e., U.S. citizens and permanent residents see <http://oiir.hq.nasa.gov/nasaecp/Webbrfg/tsld018.htm>) are allowed to apply due to the export-controlled nature of the assets.

NASA reserves the right to cancel the issue of the "Dear Colleague Letter" at any time should programmatic and/or other reasons warrant it.

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