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**Outer
Planets
Assessment
Group**





OPAG statements on New Frontiers

Meetings ~ 100 attendees
2005 - Feb, Jun, Oct
2006 - May, Nov
2007 - May, Nov


<http://www.lpi.usra.edu/opag>



February 2005

Consensus Finding
June 2005



To achieve the major scientific goals of Decadal Survey for exploration of the outer solar system, a mixed-class mission program is required. Such a program could consist of:

- Large (Flagship class) - missions every ~10 years
- Medium (New Frontiers class) - missions every ~3 years, with a significant fraction targeted toward outer solar system priorities
- Small (Discovery class) - missions addressing outer solar system targets where feasible.

New Frontiers Program – Part 1

OPAG recognizes that missions in New Frontiers (NF) program can address priority outer solar system science (e.g. as in Decadal Survey - DS)

A flight rate of 3 NF missions per decade addresses outstanding solar system science in a timely fashion (e.g. as in SRM3 2005 Roadmap)

NF #1 (*New Horizons Pluto/Charon*) and NF#2 (*Juno*) both address important outer solar system science. But the corresponding mission concepts prioritized in the DS recommended science beyond that planned for the baseline New Frontiers missions (e.g. in situ sampling by a probe at Jupiter and investigation of KBOs beyond Pluto/Charon).



New Frontiers Program - Part 2

With the selection of NF #1 & #2, there remains 3 targets on the DS prioritized list: Venus in situ explorer, Comet surface sample return and Aitken Basin sample return.

The scope of the AO for NF #3 needs to be addressed as soon as possible.

Science of the outer solar system is best served by an expanded scope for NF#3

OPAG recommends that a solar-system-wide group - e.g. COMPLEX - address the scope of the NF#3 AO.



New Frontiers Program

OPAG supports an AO for the 3rd New Frontiers mission in the 2008 timeframe and encourages NASA to make the scope the AO broad. For example, some of the closer primitive bodies (e.g. Trojan asteroids, captured satellites, Centaurs) are possible targets for New Frontiers missions. OPAG encourages NASA to allow such missions within the next AO for New Frontiers missions.



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New Frontiers Program

- OPAG supports an AO for the 3rd New Frontiers mission (NF3) in the 2008 timeframe and encourages NASA to make the scope of the AO broad. OPAG notes that there are several targets in the outer solar system that might be accommodated with New Frontiers missions and encourages NASA to allow such missions within the next AO for New Frontiers missions.
- *Await response from COMPLEX study...*



JPL \$1B box studies of Titan and Enceladus

- **Purpose:** to evaluate whether the major scientific objectives at these bodies could be achieved by a mission fitting within a ~\$1B cost cap
- Null results revealing and informative about the challenges of these targets and what can be realistically achieved at Saturn within the New Frontiers category.
- Provided a useful context for starting the flagship mission studies as well as future New Frontiers studies.

Study report available via OPAG website



- OPAG is solidly behind broadening the scope of New Frontiers