Planetary Science Update

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Outline

• Planetary upcoming mission events
• Recent accomplishments
• Use of Astrophysics Telescopes
**Planetary Science Missions Events** as of July 24, 2014

### 2014

July – *Mars2020* Rover instrument selection announcement
August 6 – 2nd Year Anniversary of *Curiosity* Landing on Mars
Fall - *Curiosity* arrives at Mt. Sharp
September 21 - *MAVEN* inserted in Mars orbit
October 19 – Comet Siding Spring encounters Mars
November 11 – ESA’s *Rosetta* mission lands on Comet Churyumov–Gerasimenko
Nov/Dec – Launch of Hayabusa-2 to asteroid 1999 JT3

### 2015

March - *MESSENGER* spacecraft impacts Mercury
Late March – *Dawn* inserted into orbit at dwarf planet Ceres
April - Europa instrument Step 1 selection
May - Discovery 2014 Step 1 selection
July 14 – *New Horizons* flies through the Pluto system

### 2016

March – Launch of Mars missions *InSight* and ESA’s *ExoMars Trace Gas Orbiter*
March - Europa instrument step 2 selection
July - *Juno* inserted in Jupiter orbit
July – ESA’s Bepi Columbo launch to Mercury
August - Discovery 2014 Step 2 selection
September - *InSight* Mars landing
September – Launch of Asteroid mission *OSIRIS – REx* to asteroid Bennu
September - *Cassini* begins to orbit between Saturn’s rings & planet
Recent Accomplishments

• Release of *draft* Discovery AO – July 2, 2014
  – Comments were due July 16, 2014
  – AO release planned by first week in October
  – Step-1 proposals will be due late in CY2014.

• Release of Europa Instrument AO – July 15, 2014
  – Proposals due October 17, 2014

• 2014 Senior Review completed
  – Report and response to be posted
Use of Astrophysics Telescopes
Astrophysics Division telescopes

• HST surveys approved:
  – Looking for a NH KBO & Europa plumes
  – More planetary proposals to HST are encouraged!

• Spitzer operations extended for the next two yrs
  – Astrophysics and the Planetary Science Divisions have requested observing time commitments for FY15

• Spitzer & Keck solicit high priority investigations of solar system objects, *including monitoring campaigns*
  – Planetary science proposals reviewed, and selected in accordance with current Spitzer and Keck proposal practice
  – PSD strongly encourages you to submit Planetary proposals for time
Spitzer Warm Mission- Solar System Programs

Near Earth Objects – 600 hours
- The Warm Spitzer NEO Survey: Exploring the history of the inner Solar System and near Earth space (500 hours – an Exploration Science Program)
- 3552 Don Quixote (asteroid found to be a comet)
- Pilot program to use Spitzer to search for NEOs
- Eclipsing near earth asteroid 1996 FG3

Comets – 105 hours
- Sungrazing Comet C/2011 W3 Lovejoy
- C/2012 S1 (ISON)

Asteroids and KBOs – 377 hours
- Many KBOs, KBO binaries, Centaurs
- Eclipsing binary asteroid 2000 DP107

Mission Support – 140 hours
- OSIRIS-Rex targets, Hayabusa 2 (1999 JU3)
- The primary target (2009 BD) of the Asteroid Retrieval Mission (Cycle 10)
- Study Of Pluto In Support Of the NASA New Horizons Mission (Cycle 10)
- Siding Spring (C/2013 A1) (Cycle 10) – potential impact to orbiting spacecraft at Mars when the comet passes close to the planet in Oct 2014
JWST Science Data Availability Relative to Proposal Deadlines
(for required 5yr science mission)

- Cycle 1: GTO Data
- Cycle 2: GO Data

- Cycle 1 Proposal Deadline
- Cycle 2 Proposal Deadline
- Cycle 3 Proposal Deadline
- Cycle 4 Proposal Deadline
- Cycle 5 Proposal Deadline

- LAUNCH JWST Oct 2017
- Start of GO/GTO data taking
  - Only access to ~1/3 of Cycle 1 data
  - Cycle 3 science built on ~1/3 of Cycle 1 data
  - 1st Proposal Cycle that can use full Cycle 1 dataset for follow-up proposals
  - Only first 2 cycles of data available for follow-up

Note: Most Cycle 3 and all later data cannot be followed up by any but the original proposers, including the last of the GTO data.

GDI – 11/04/09 JSTAC
(with 7-8 months between proposal deadline and start of science observations)
Astrophysics Telescopes
Questions?