View from my house
Outer Planets Program

• Budget outlook for Outer Planets Program remains positive
  – Congress increased the FY10 budget for Jupiter Europa Orbiter and requested a funding profile for both a 2020 and 2018 launch
  – President’s FY11 meets the near term needs of the Outer Planets Program

• Decadal Survey is very busy
  – NASA is supporting 6 studies from Satellites, 3 studies from Giant Planets, and 4 studies from Primitive Bodies panels

• Variety of outer planets events and workshops
  – Galileo Anniversary in Padua, Italy
  – Galileo anniversary event at Rayburn Building Feb. 10
  – 5th Anniversary of the Huygens mission (January in Barcelona)
  – Titan through Time workshop (April 6-8, GSFC)
  – Io Workshop (May 25-26 in Provo, Utah)
Cassini Solstice Mission

• NASA has approved the Cassini Solstice mission!
  – Funded at level recommended by Senior Review (~75% for the science team and ~60% for the engineering team, or ~$60M/yr)
  – This Solstice mission combines the opportunities to monitor seasonal-temporal changes throughout the Saturn system with an exciting Juno-like series of proximal orbits at the end of the mission before impacting Saturn
  – Solstice mission starts in FY11 and continues through 2017 with periodic senior reviews to maintain high science value

• Cassini remains healthy with no major changes to the s/c
  – Since last OPAG meeting Cassini has conducted 9 Titan and 2 Enceladus flybys as well as Equinox science observations

• Data Usability efforts continue
  – Work has started on User Guides for INMS, Radar, UVIS
  – Project is examining the utility of a metadata library
Europa Jupiter System Mission

• The President’s FY11 budget provides funds to continue concept development and supports release of instrument AO in 2011
  – Plan to establish Project Office in 2010 to support AO, Phase A efforts
• The JSDT has made important strides integrating the JEO and JGO elements into a more cohesive Jupiter system mission
  – JSDT has defined science taking advantage of having two spacecraft in the Jupiter system
  – Science content of JEO and JGO is being better integrated into EJSM science
  – JSDT expanding Jupiter atmospheric science
• Work continues on Radiation Mitigation Plan
  – Approved Parts and Materials List is now available
• Held two instrument workshops (July 2009 in US and January 2010 in Europe)
  – All presentations and audio from July 2009 workshop are available at http://opfm.jpl.nasa.gov/
• Future meetings are planned before the AO is released
  – May 17-19: EJSM Science Workshop
  – Late July: Final instrument workshop in Pasadena, CA
Guiding Concepts for the AO

• The goal of the AO process is to provide the best information possible to NASA and ESA to enable them to select a payload that maximizes the likelihood of mission success
  – Mission success extends beyond achieving science goals
• The AO is in process and the parameters are under discussion
• NASA is considering using a two-step selection process for JEO instruments
  – At Step 1, NASA overselects (by instrument category) teams for competitive Phase A
  – During Phase A, teams work with Project on instrument concepts
  – Teams deliver Concept Study Report and undergo final TMC assessment before downselection to flight instruments
• NASA and ESA will follow the Cassini/Huygens example and coordinate all aspects of instrument calls
• It is expected that the AO and structure of the PSG will pay particular attention to issues such as:
  – Developing and operating a long-lived mission (e.g., succession planning)
  – Data access, archiving, and community involvement
Supporting Research and Technology

• Cassini Data Analysis Program
  – Proposals were due May 1 and selections announced Oct. 22
  – 80 proposals received, 22 selected (28%)
  – Max Bernstein is transitioning off as CDAP Discipline Scientist

• Outer Planets Research Program
  – Issues: proposal quality is up, community service proposals, steady budget
  – Some changes expected in ROSES 2010 release; please read carefully and early

• Futures Line
  – As part of the Outer Planets Program we need a funding wedge dedicated to preparing us for future missions
  – Such preparation can take many forms
Begin by assuming a spherical cow…

• In our case, the simplifying assumption is that this mythical funding wedge actually exists. What should be done with it?
Planning for the Future

A number of things can and/or should be done to prepare for future missions as well as take the best advantage of current missions:
- Add new scientists to Cassini team
- Increase R&A budget
- Create Critical Data Products opportunity
- Develop technology for future missions
- Address data usability and access issues
- Conduct mission studies

Assuming a funding wedge, what combination should be executed?

Further discussions during Open Mike on Tuesday

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![Budgets for Outer Planets Program Elements per President's FY11 Budget](chart.png)

- **SR&T**
- **EJSM**
- **Cassini**
The Road Ahead

• This is a time of great opportunities for outer planets exploration!
• Key event is the release of EJSM AO’s by NASA and ESA in 2011
  – Final instrument workshop in July in Pasadena
• NASA and ESA have made tremendous progress but many hurdles remain (budgetary, technical, political)
• Keep in mind that EJSM is a complex international mission that is currently in pre-phase A
  – We should expect some changes as we move toward and through Phase A (programmatics, schedules, unforeseen technical issues);
  – But the important things will not change (Europa radiation environment, key science objectives, ESA/NASA team)