

# Outer Planet Priorities

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# Giant planet Categories

- Mission Priorities
- Ground based / Technology



# Mission Priorities

- Uranus Orbiter and Probe
- Saturn Probe

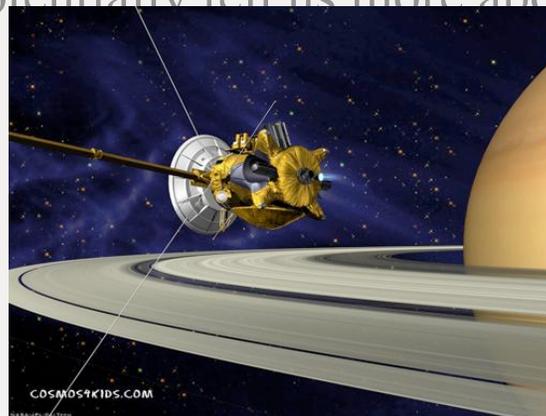


# Uranus

- Ice Giant flagship mission brought up in the 2003 Decadal Survey
- Determine atmospheric zonal winds, composition, and structure
- Understand the basic structure of the planet's magnetosphere
- Determine noble gases abundances and isotopic ratios
- Understanding Uranus's rings

# Saturn

- Extending the Cassini-Mission to end in 2017 would be the most cost efficient way to effectively continue to study Saturn and its atmosphere.
- Flying the spacecraft close to the planet's weather layer would allow us to further analyze the content of the atmosphere.
- Studying gas giants is important since the elements they contain have not been altered through geologic processes.
- Cassini could potentially tell us more about how seasons affect Saturn.



# Ground Based Telescopes

- Continued Support for NASA Infrared Telescope Facility
- Low-Cost network of imaging telescopes across the globe
- Invest in giant (30 meter) telescopes
- Mid-infrared technology

# Reasons for Ground Based Telescopes

- Regular, continued surveillance
- Provides data that aids interpretation of spacecraft observations
- Enables individual experiments
- Surveillance over long periods of time

# Thermal Protection Systems (TPS)

- TPS testing and development facilities
- Manufacturing of new TPS materials and heat shields
- Flight instrumentation, aerothermal / material response modeling

# Reasons for TPS Development

- Need a facility with adequate testing ability
- Current TPS unreliable and unguaranteed performance
- Older technology, abilities don't fit proposed missions