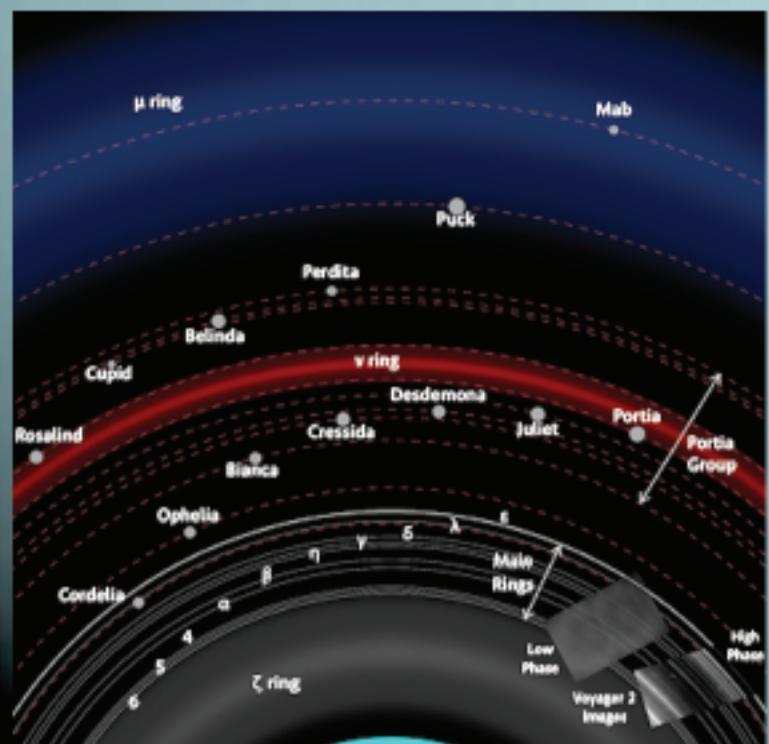


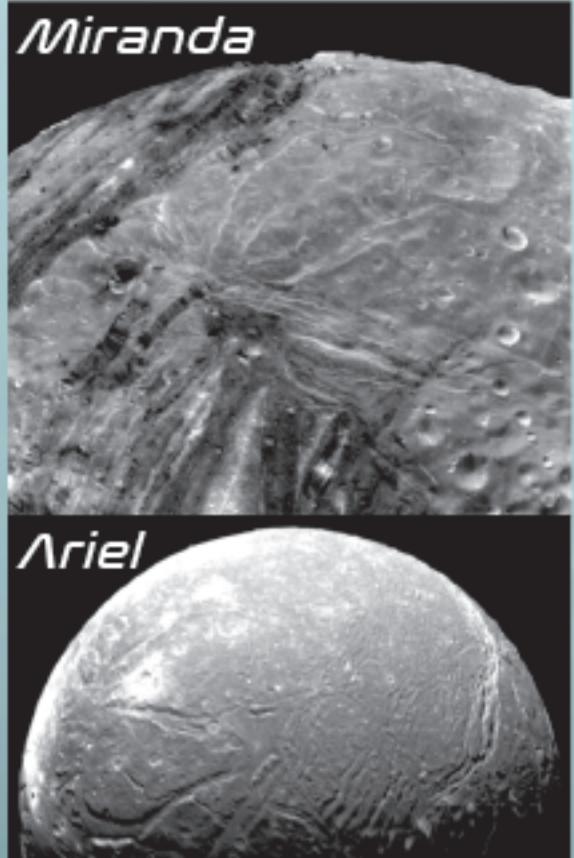
Uranus presents a compelling scientific target and provides a unique opportunity to explore Ice Giant system science.

RINGS



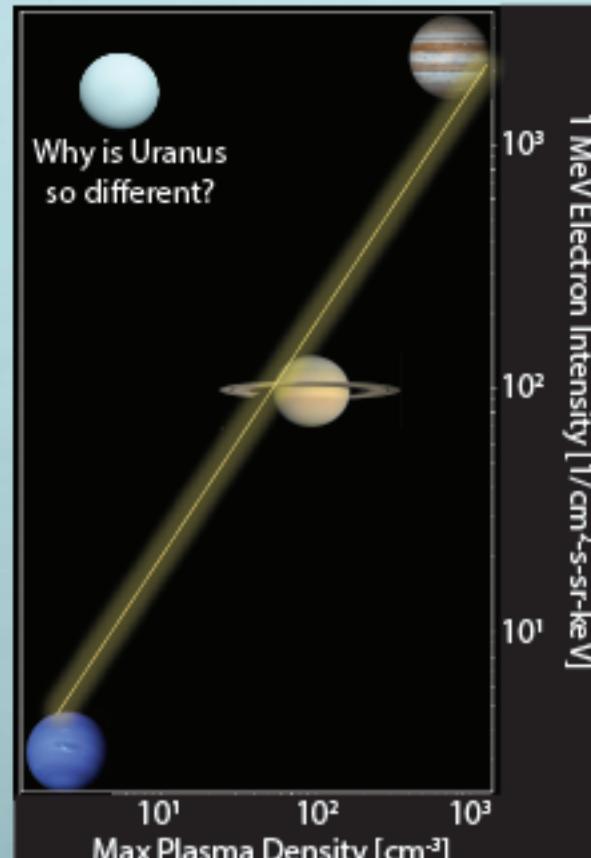
It is unknown why the Uranian ring-moon system is so dynamically full and haphazard

SATELLITES



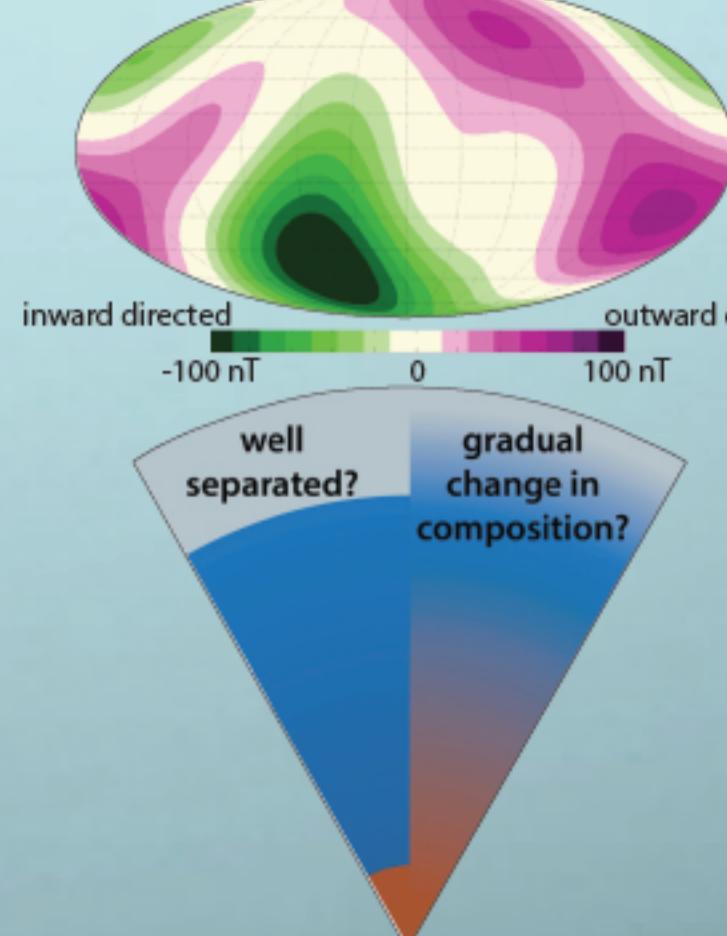
Surface features revealed by Voyager 2 have raised multiple mysteries regarding the composition, evolution, formation, & structure of the classical Uranian satellites.

MAGNETOSPHERE



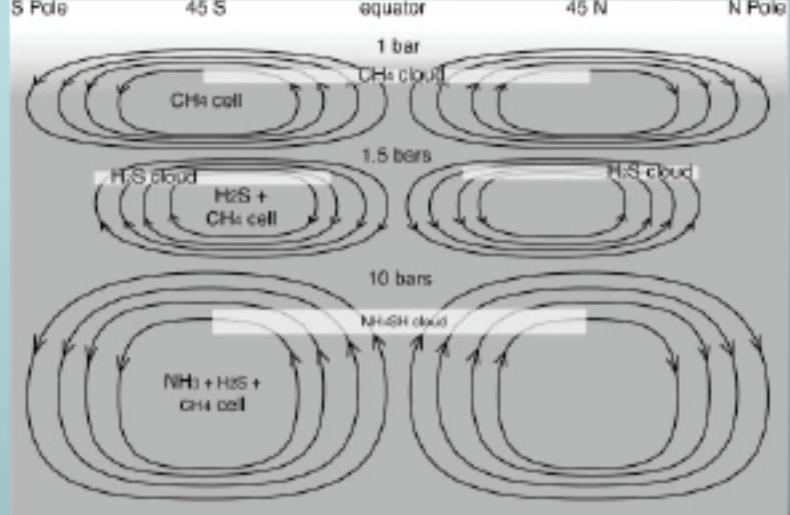
It is a mystery how Uranus' apparently empty "vacuum magnetosphere" can generate and sustain such an intense electron radiation belt.

INTERIOR



Models of flyby data (top: 1-bar magnetic field; bottom: internal structure) showcase the peculiarities and unknowns of Uranus' interior.

ATMOSPHERE



It remains unclear whether a three-layer overturning meridional circulation model accurately describes Uranus' zonal and meridional circulation patterns.

New Frontiers-class Uranus Orbiter: Exploring the feasibility of achieving multidisciplinary science with a mid-scale mission

The only way to comprehensively understand the Uranian system is with an orbiting mission.

A NF-class orbiter could address a diverse, cross-disciplinary set of the unanswered scientific mysteries of the Uranian system.

Such a lower-cost (\$500-900M) mission will need to consider mission & spacecraft designs that may limit capabilities but increase overall feasibility.

| Outstanding Mystery | |
|----------------------|---|
| RINGS | <i>Why is the architecture of the Uranian ring-moon system dynamically full and haphazard?</i> |
| SATELLITES | <i>Do any of Uranus' classical satellites sustain a subsurface ocean?</i> |
| MAGNETOSPHERE | <i>Which processes formed the extremely dry and resurfaced terrains of the five classical Uranian satellites?</i> |
| INTERIOR | <i>How does plasma transport work in Uranus' unique magnetospheric configuration?</i> |
| ATMOSPHERE | <i>How does Uranus generate such an intense electron radiation belt?</i> |
| INTERIOR | <i>How is Uranus' interior structured below the clouds and how does it behave?</i> |
| ATMOSPHERE | <i>What mechanisms drive Uranus' large- and small-scale atmospheric dynamics?</i> |

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