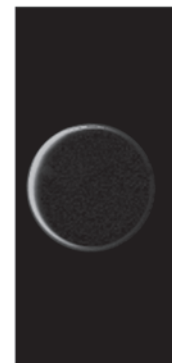


TITAN - Moon of Mysteries

Titan is the largest of Saturn's moons. It is the second-largest satellite in the solar system. Much larger than the planets Mercury and Pluto. Titan is the only moon with a substantial atmosphere.



Christiaan Huygens (1629-95)
discoverer of Titan

Dark surface features with provisorial names like "Lying H", "Ball", "Dog", "Dragon's Head". Bright surface features are ice, black surface features are hydrocarbons ?

Atmosphere ~ 200 km thick and reddish. 90% nitrogen with methane, perhaps argon



Saturn with Titan

Mysterious surface with oceans and rivers of liquid methane and hills of solid methane?

Northern Hemisphere darker and redder

250 km - methane, water (and ice?)

200 km - ammonium, water ocean

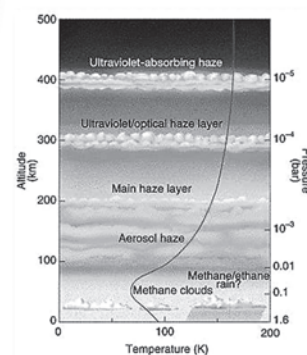
250 km - ammonium, water ice

Rocky Core ~ 1900 km

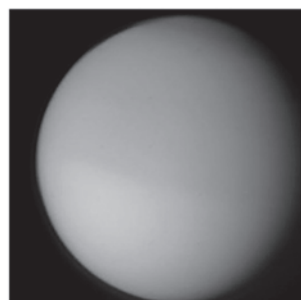
Blue layer

Mostly solid surface

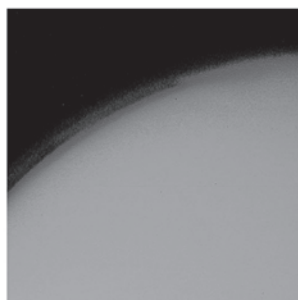
Subsurface "Aquifer" Storage of liquid methane



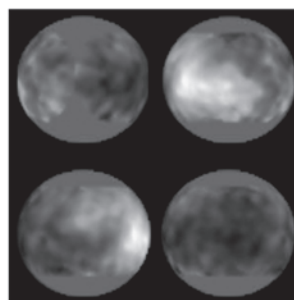
Titan's Atmosphere



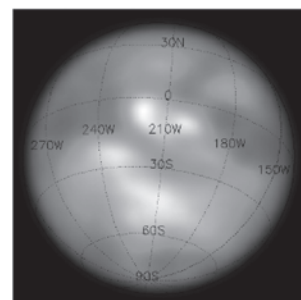
Titan seen with Voyager



Titan's limb



Titan seen with HST



Titan seen with the VLT

Physical Data

Property	
Distance from central body	
Rotation period	
Equatorial radius	
Mass	
Density	

Titan	
1,221,7800 km	
15,95 days	
2575 km	
1.35×10^{23} kg	
1881 kg/m ³	

For comparison

Moon	
384,000 km	
27 days 8 hrs	
1738 km	
7.35×10^{22} kg	
3340 kg/m ³	

Mercury	
58 million km	
59 days	
2240 km	
3.30×10^{23} kg	
5430 kg/m ³	