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171 tweets  
09 Sep 2017 11:55

T-6 days until [@CassiniSaturn](#) burns up in the upper atmosphere of [#Saturn](#). It's has flown for 13 years, and will take pics to [#GrandFinale](#)

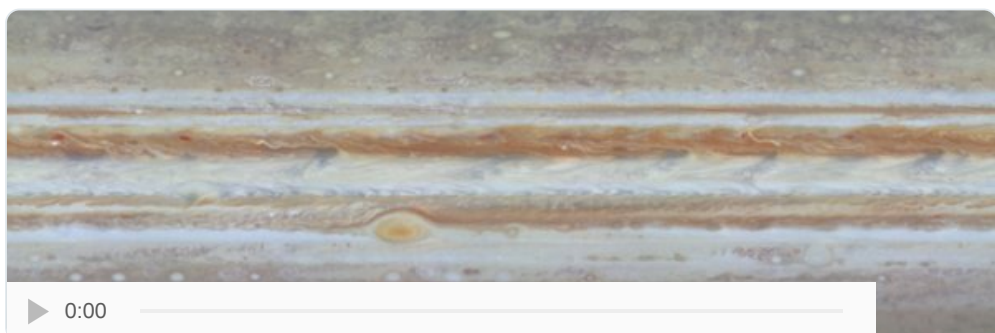


I'll be highlighting my fav images from [@CassiniSaturn](#) over the next week in anticipation of the [#GrandFinale](#) on Sept 15. Starting with...

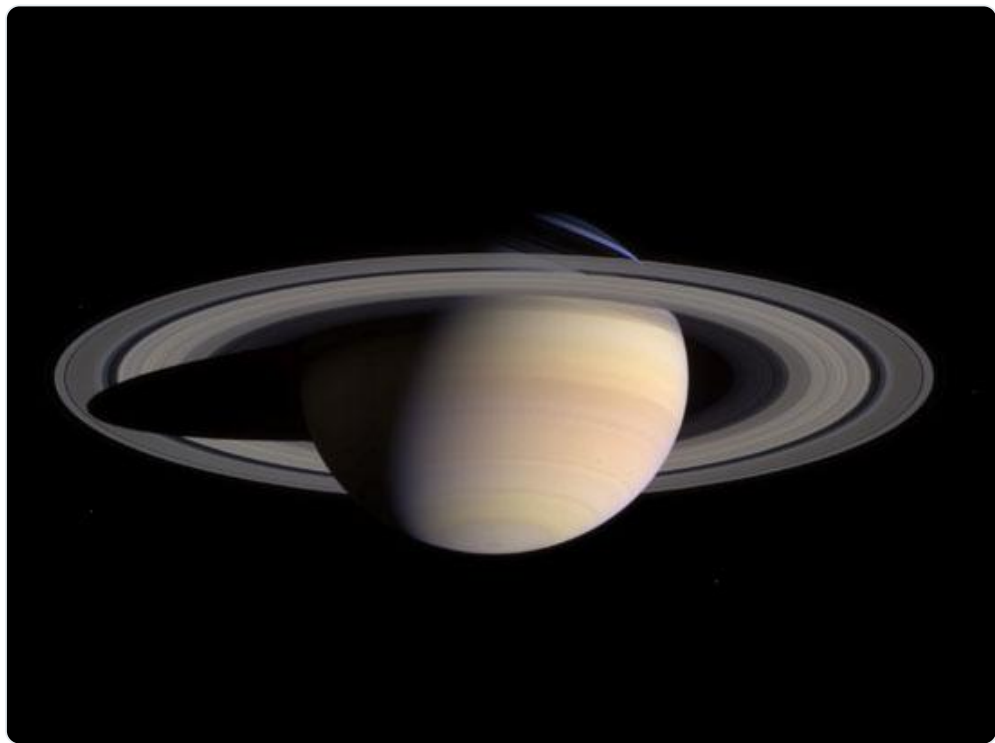
1/ [@CassiniSaturn](#) launched aboard a Titan IVB/Centaur in a spectacular night-time launch. Oct 15, 1997. 7 year trip to [#Saturn](#) [#Grandfinale](#)



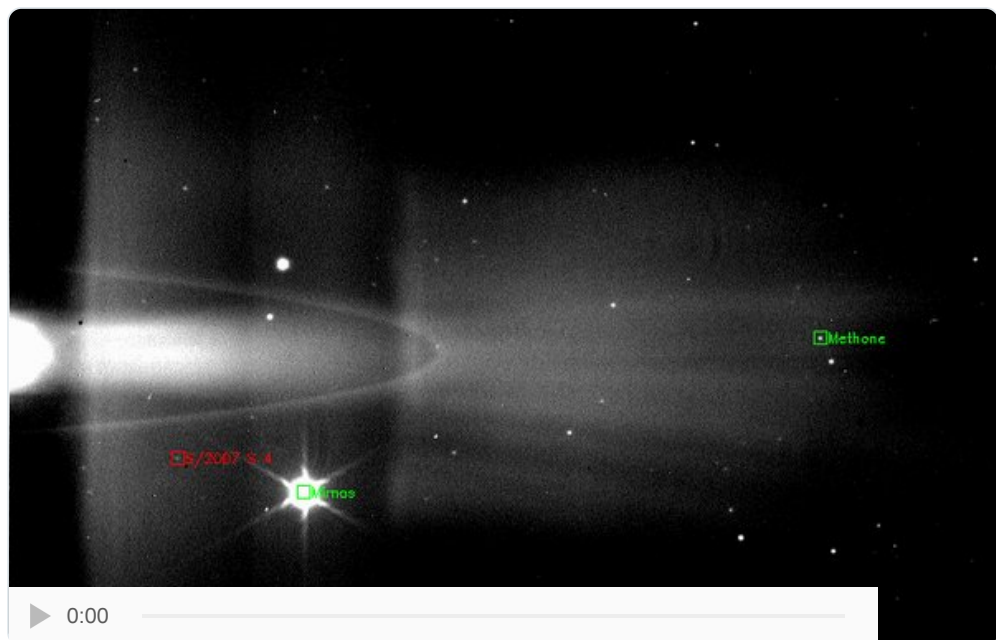
2/ En-route to [#Saturn](#), Cassini flew-by Jupiter and took some of the best images to date including this animation of the clouds [#Grandfinale](#)



3/ [@CassiniSaturn](#) took this image on May 7, 2004, just a few months before orbital insertion at [#Saturn](#) on July 1, 2004. [#Grandfinale](#)

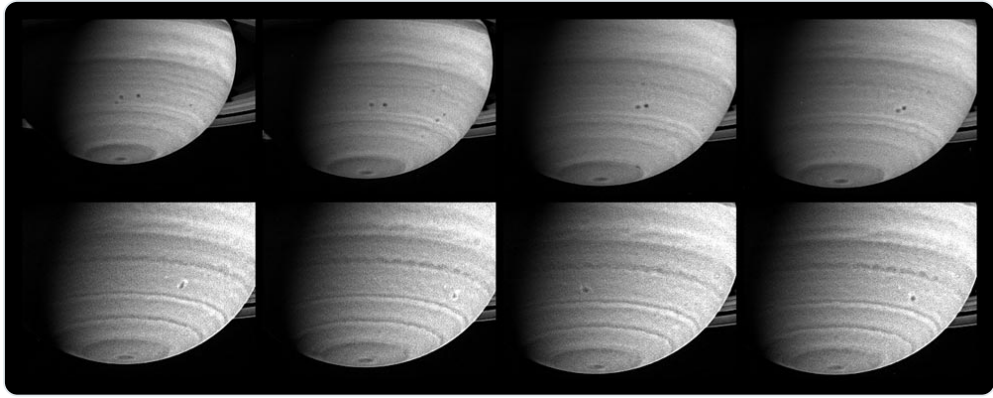


4/ A month before insertion into [#Saturn](#)'s orbit, [@Cassini](#) discovered two new moons: Methone and Pallene, June 1, 2004

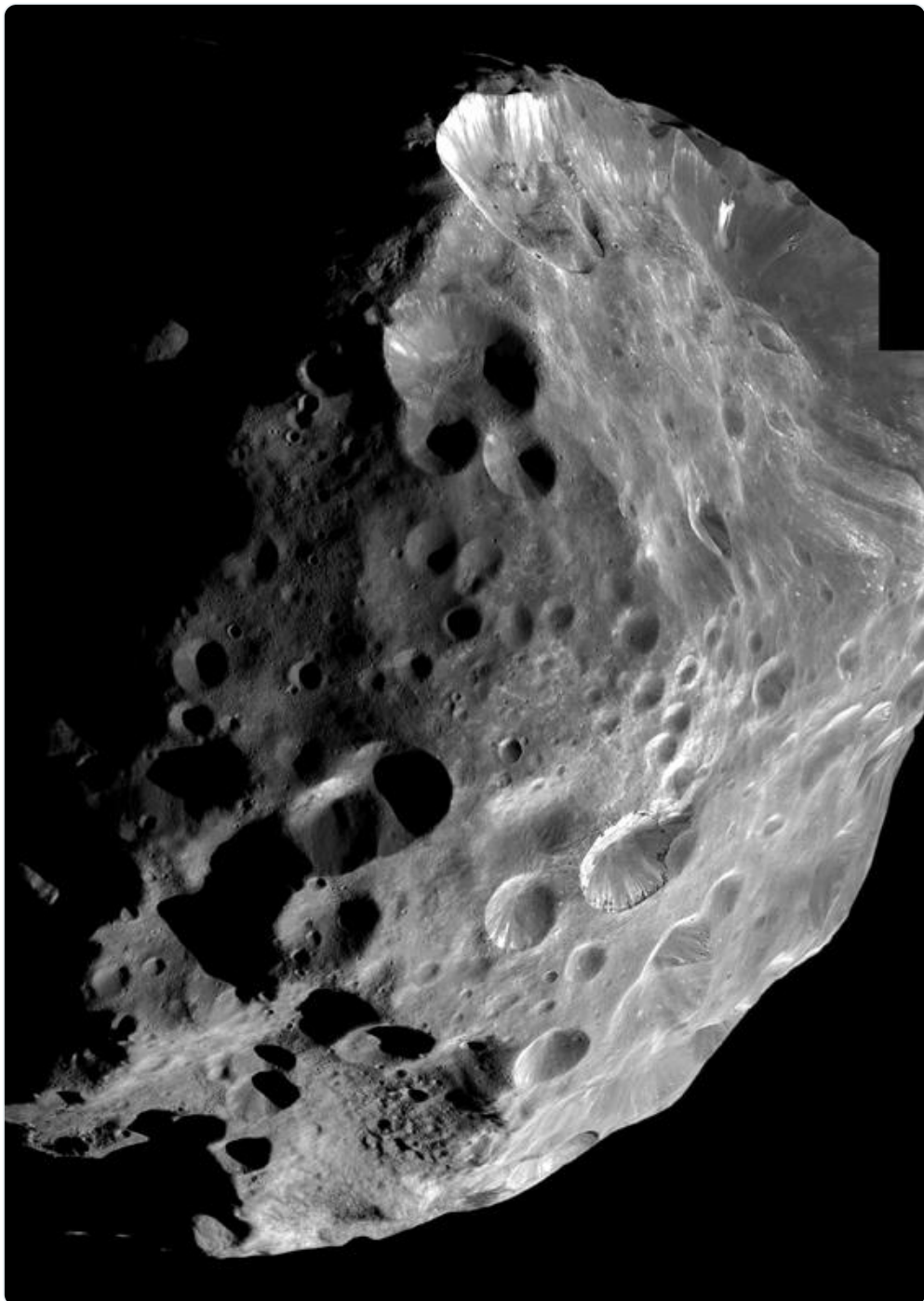


5/ Back in 2004, only 18 moons were known, now there are 60... a combination of [@CassiniSaturn](#) imaging and ground based work has found them

6/ Again, before arriving at [#Saturn](#), [@CassiniSaturn](#) caught two storms merging. both 1000 km wide, moving 5ish m/s. March 2004 [#GrandFinale](#)



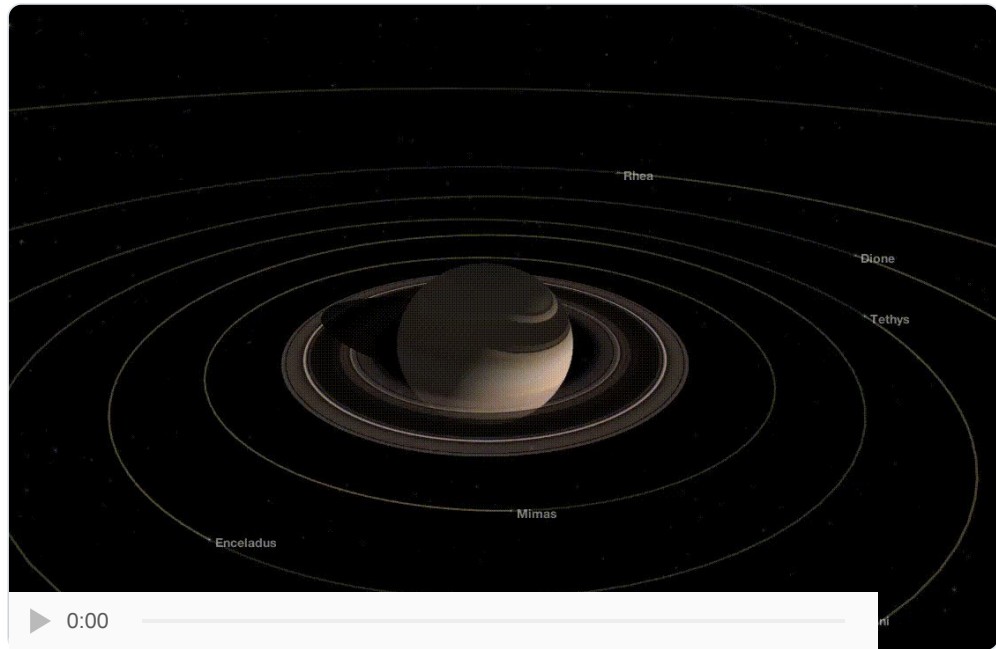
7/ A close flyby of the moon [#Phoebe](#) on June 10, 2004 reveals a very irregular topology. Looks like an asteroid! [@CassiniSaturn](#) [#Grandfinale](#)



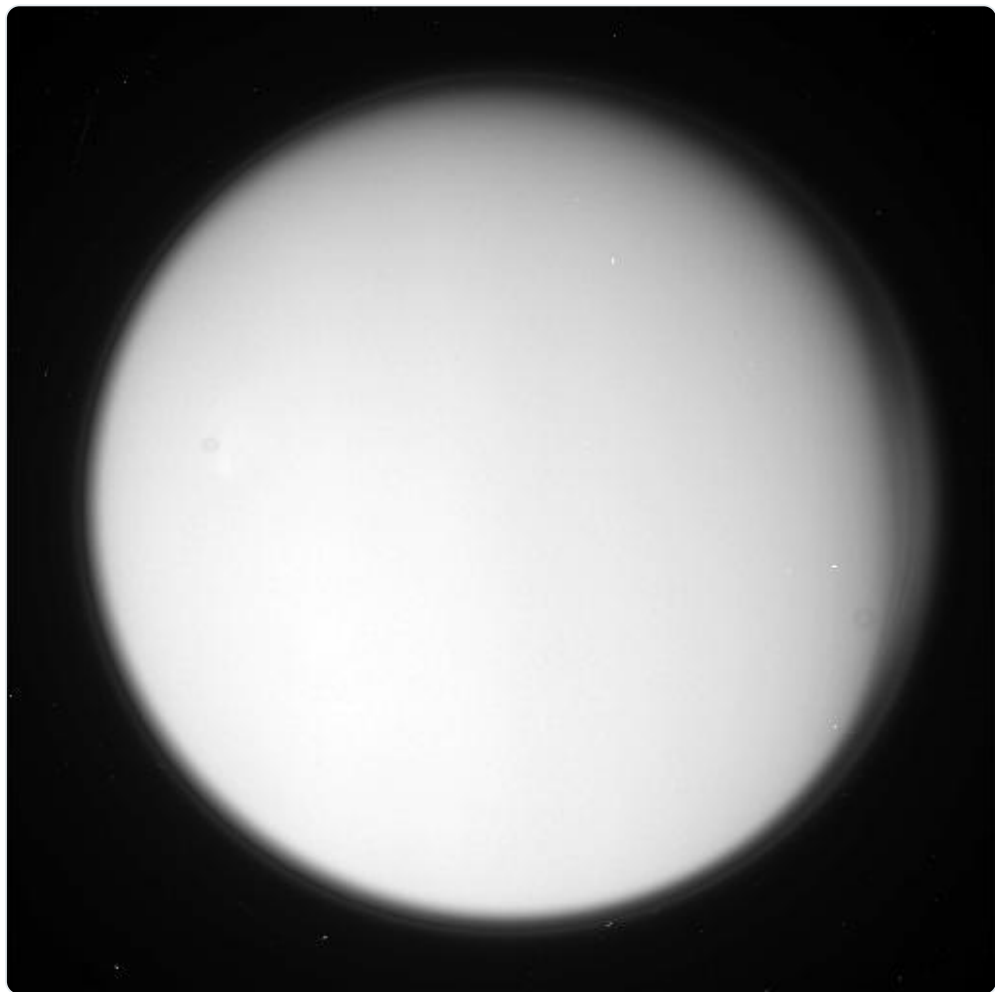
8/ Btwn June 30-July 1, 2004, [@CassiniSaturn](#) performed an engine burn that



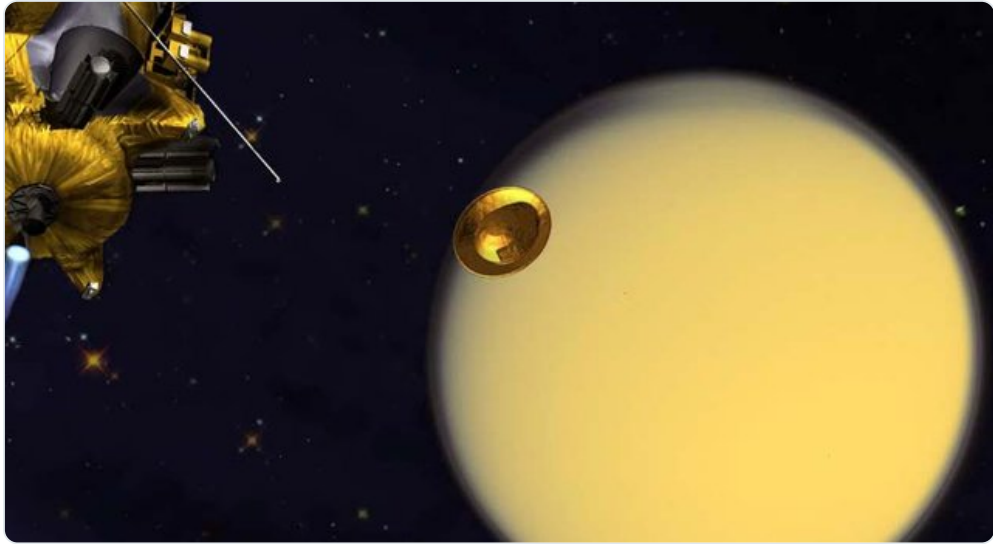
made it the first human-made object to orbit [#Saturn](#) [#Grandfinale](#)



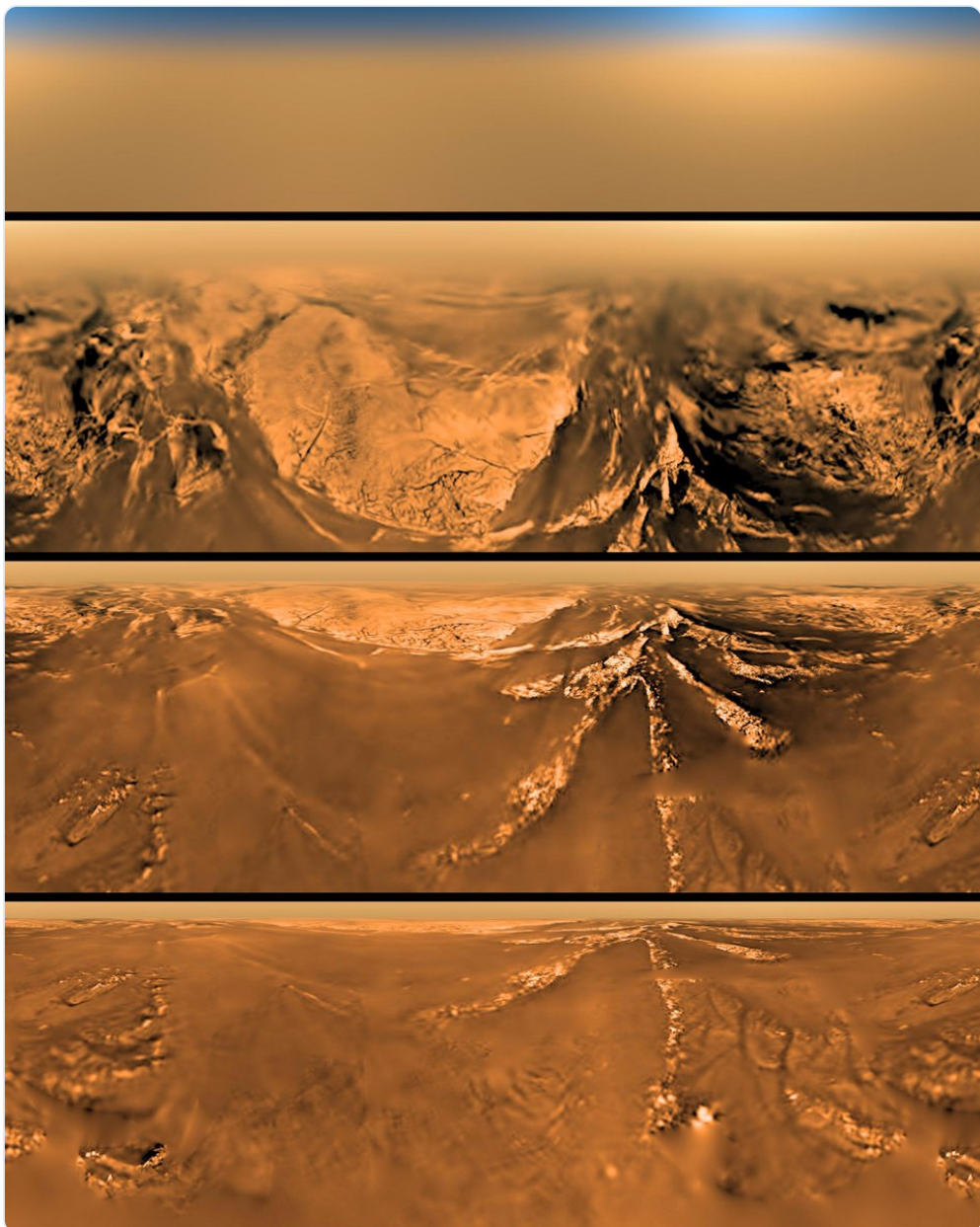
9/ In Oct 2004, [@CassiniSaturn](#) flew by [#Titan](#) within 1200km. This shot from the flyby suggests a stratified atmo. 1of127 flybys [#Grandfinale](#)



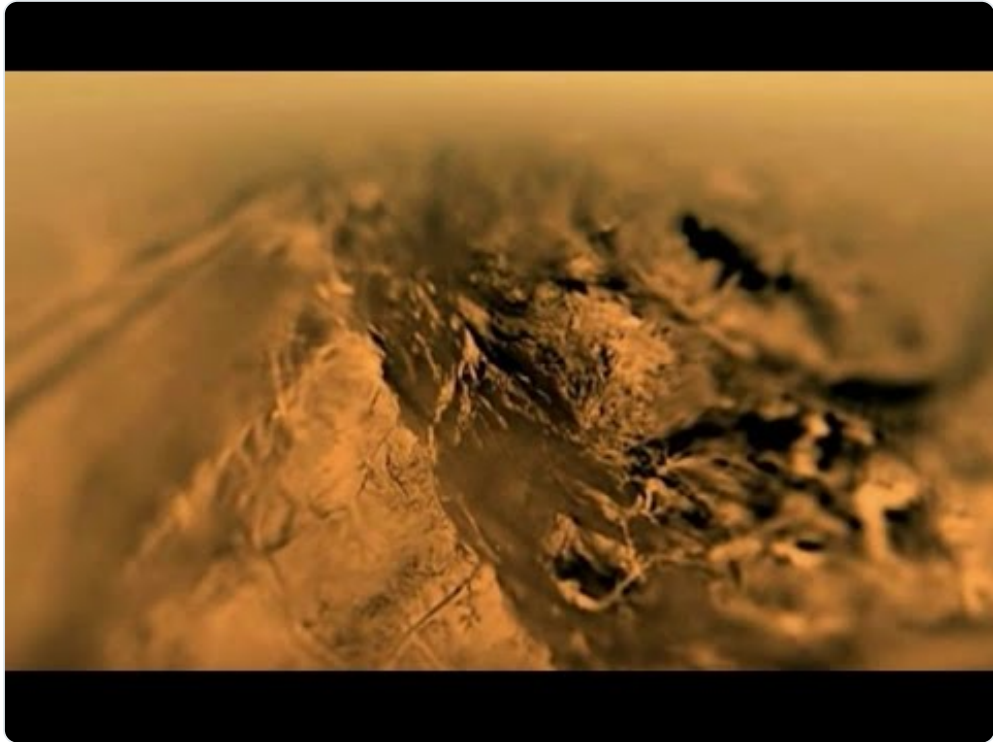
10/ on Dec 23, 2004, [@CassiniSaturn](#) released the [#Huygens](#) probe, which will eventually land on the surface of [#Titan](#). [#Grandfinale](#)



11/ Jan 14, 2005 [#Huygens](#) entered upper atmosphere of [#Titan](#) taking 2.5 hrs to reach ground. Measuring atmos all the way down [#grandfinale](#)

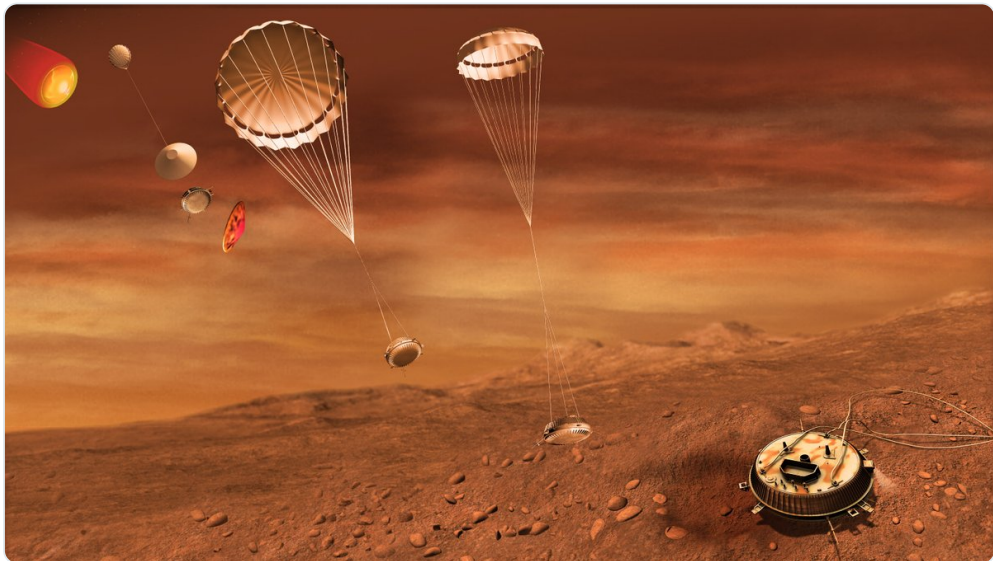


12/ Here's a great video of the landing using real imagery [#GrandFinale](#)

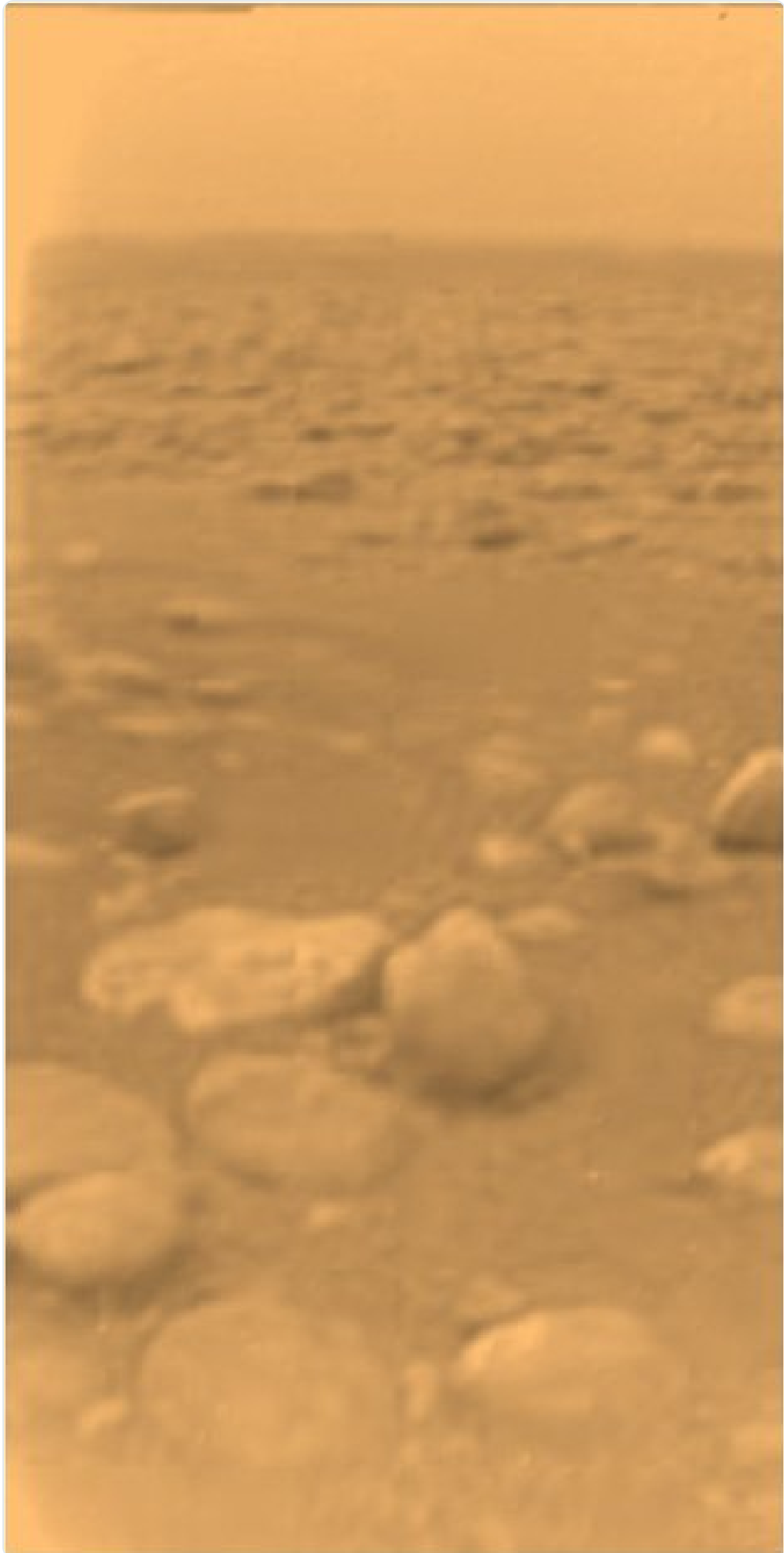


<https://www.youtube.com/embed/msiLWxDayuA>

13/ At 12:43UTC on Jan 14, 2005 the [#Huygens](#) probe landed on [#Titan](#), becoming the furthest soft-landing ever achieved by humans [#grandfinale](#)



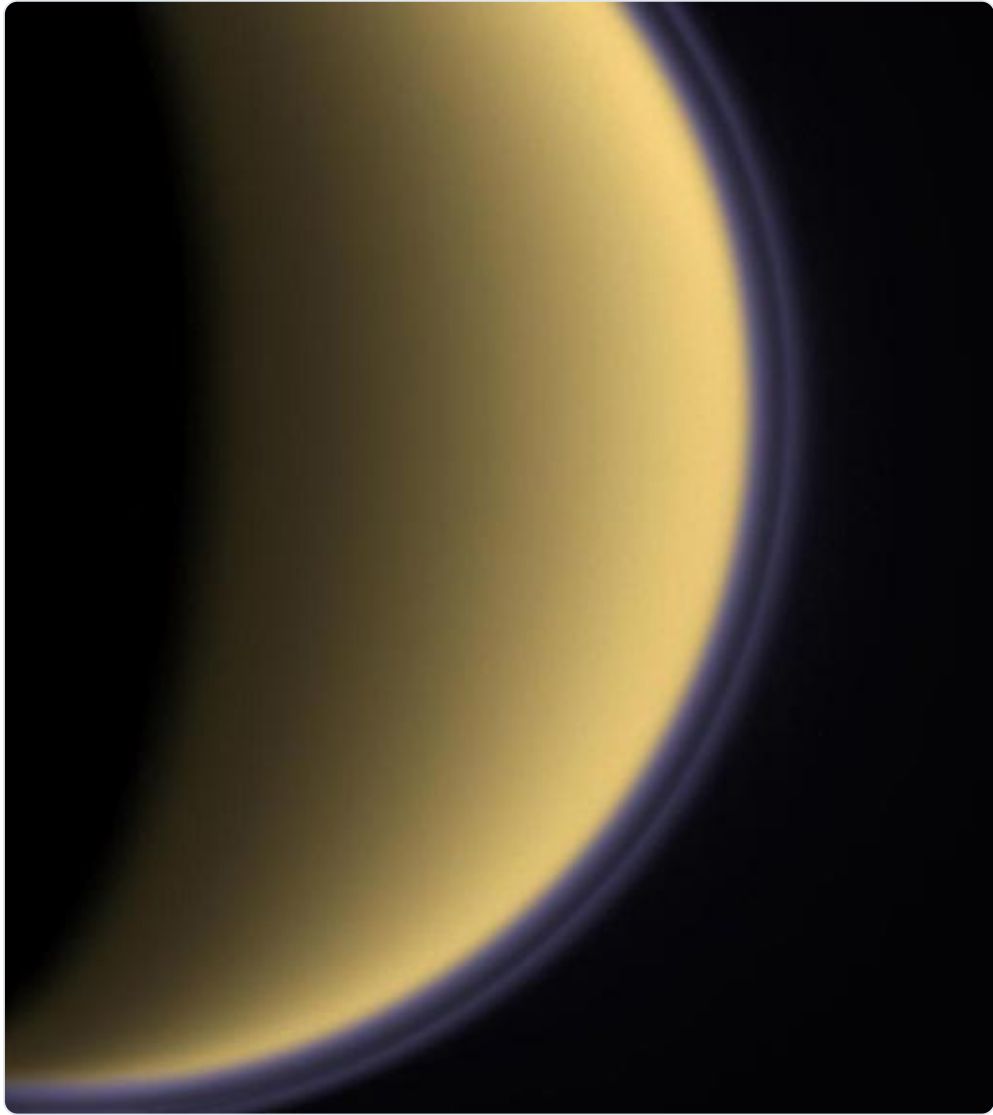
14/ [#Huygens](#) operated for abt 90min before it lost contact w [@CassiniSaturn](#). Here's an infamous image from a surreal world [#grandfinale](#)



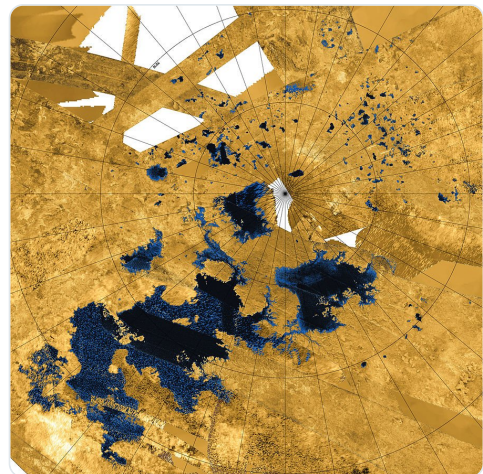
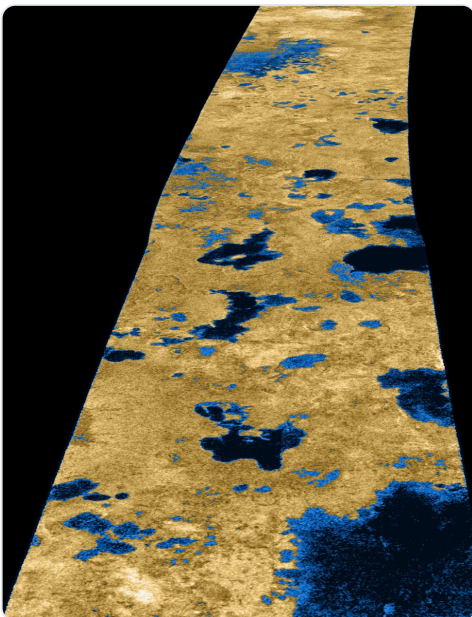
15/ [@CassiniSaturn](#) went on to make 127 more flybys of [#Titan](#), which is the only



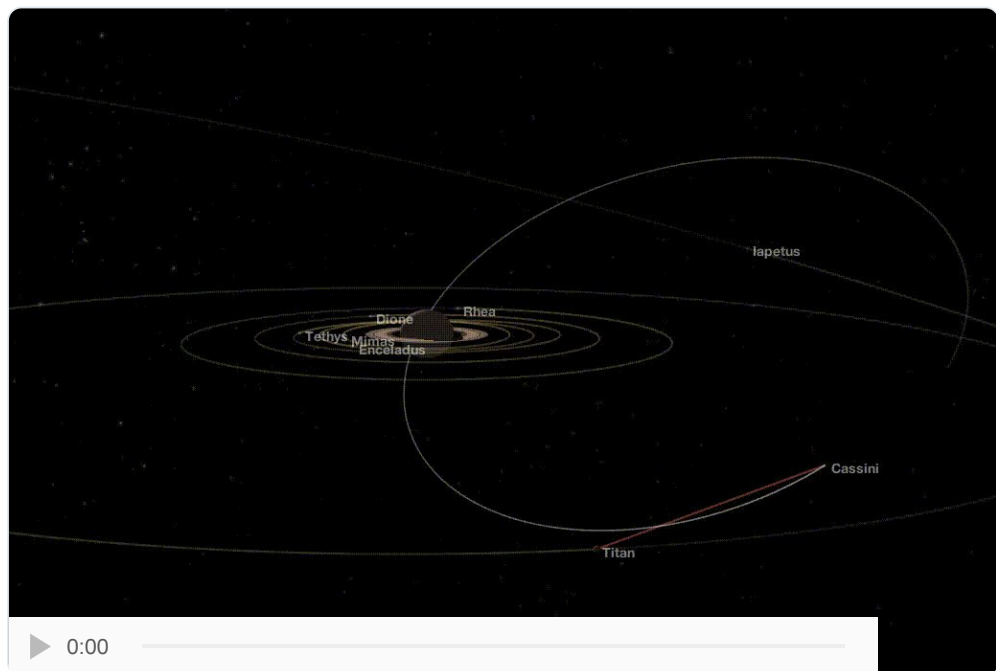
Moon in the solar system with an atmosphere [#grandfinale](#)



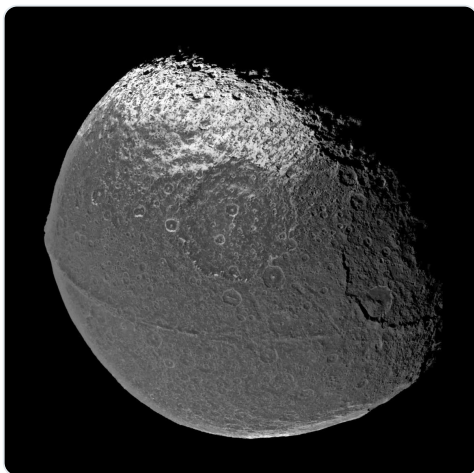
16/ [@CassiniSaturn](#) confirmed there are lakes of Methane/Ethane on [#Titan](#). The only other body in Solar System that has liquids [#grandfinale](#)



17/ RIGHTNOW [@CassiniSaturn](#) is receiving a "Goodbye Kiss" frm [#Titan](#) a final distnt flyby of [#Saturn](#)'s largst moon at 119,049km [#GrandFinale](#)



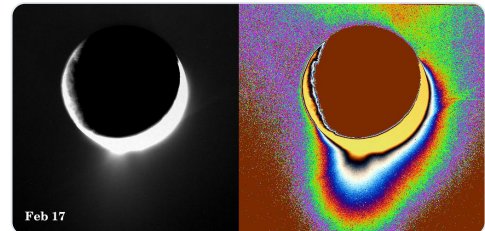
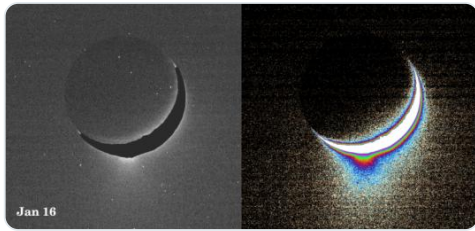
18/ Iapetus, a 1500km-wide moon of [#Saturn](#), famous for its dramatic two-tone colouration and 1300km-wide equatorial ridge [#GrandFinale](#)



19/ it's funny, this equatorial ridge business was weird when they discovered it back in 2005. That's just the tip of the iceberg, though

20/ Much later on, [@CassiniSaturn](#) started finding moons embedded in the rings that sported a similar feature to Iapetus. We'll get to that..

21/ [@CassiniSaturn](#) detects geysers on [#Enceladus](#) in early 2006, confirming a massive liquid water ocean below the ice surface [#GrandFinale](#)



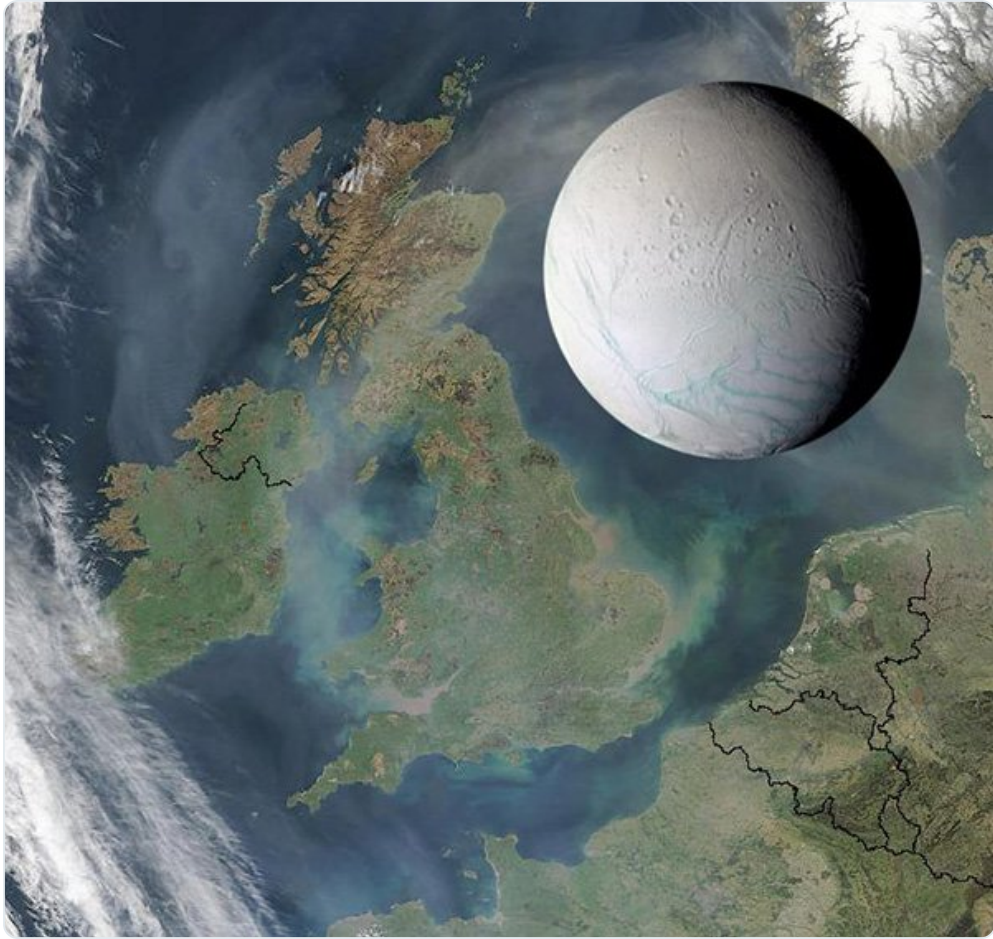
22/ [#Enceladus](#) became a major focus of the [@CassiniSaturn](#) mission after that. Liquid water is an important ingredient for life here on Earth

23/ In 2008, [@CassiniSaturn](#) gets close to the plumes, even flying through them. Analysis of the water flying into space begins [#GrandFinale](#)

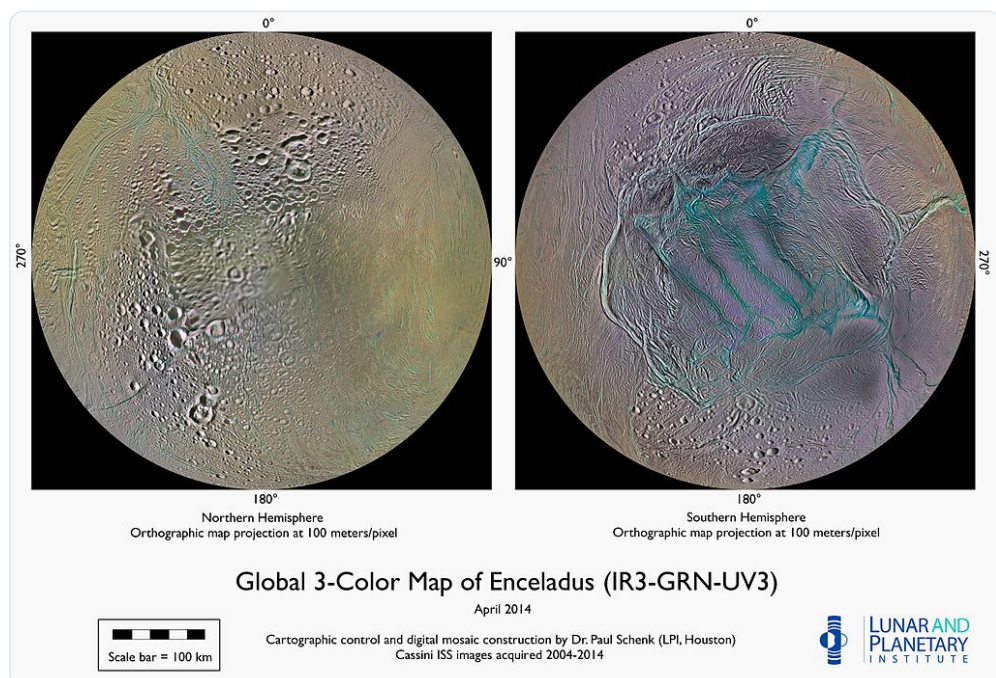


24/ [#Enceladus](#) is only 500km-wide but contains MORE water than the entire Earth! Here it is next to Great Britain for scale [#GrandFinale](#)





25/ the "tiger stripes:" the locations on [#Enceladus](#) where the Geysers shoot into space. Composed of: salts, organic compounds [#GrandFinale](#)



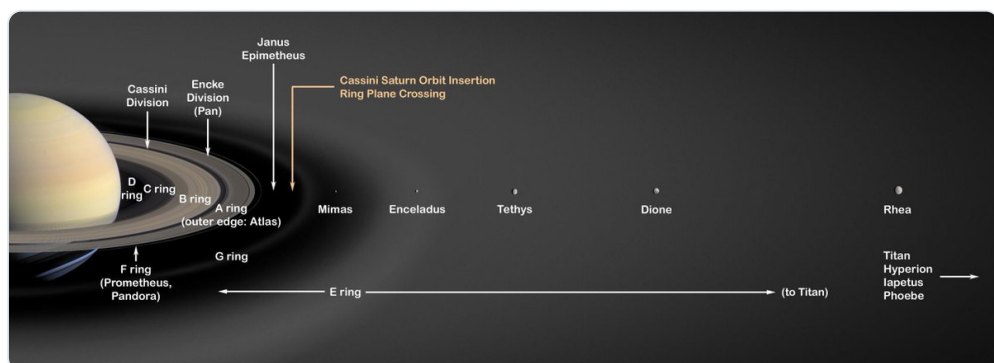
26/ This iconic image is perhaps my favourite one of [#Enceladus](#). Its plumes are so large and frequent they are CREATING [#Saturn's](#) E ring





27/ Not only is [#Enceladus](#) perhaps the best place to go looking for life in our Solar System, it also influences the entire Saturnian system

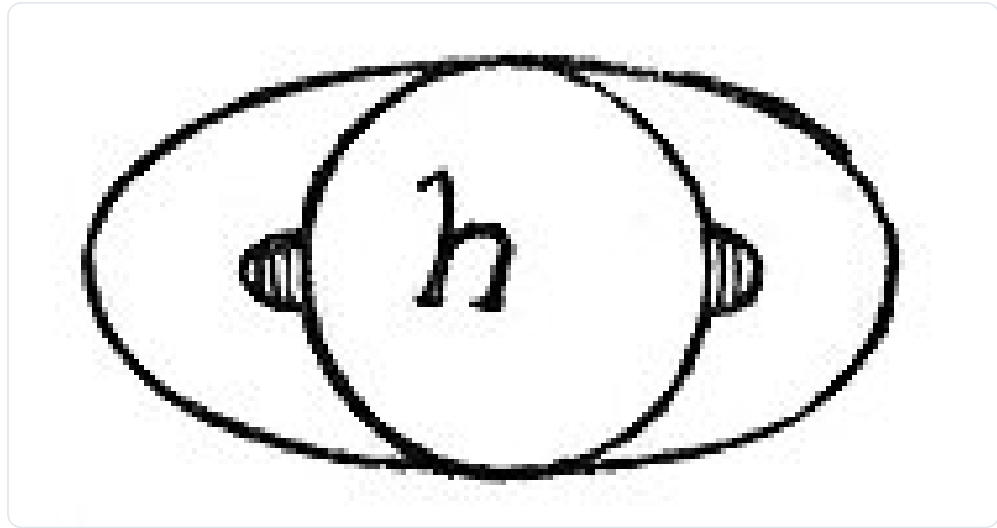
28/ [#Enceladus](#) is contributing to the ring structures of [#Saturn](#). An impressive feat for a moon the size of England [#GrandFinale](#)



29/ I'm almost 30 tweets into this [#GrandFinale](#) recap and I haven't even talked about the rings or the [#Saturn](#) itself!

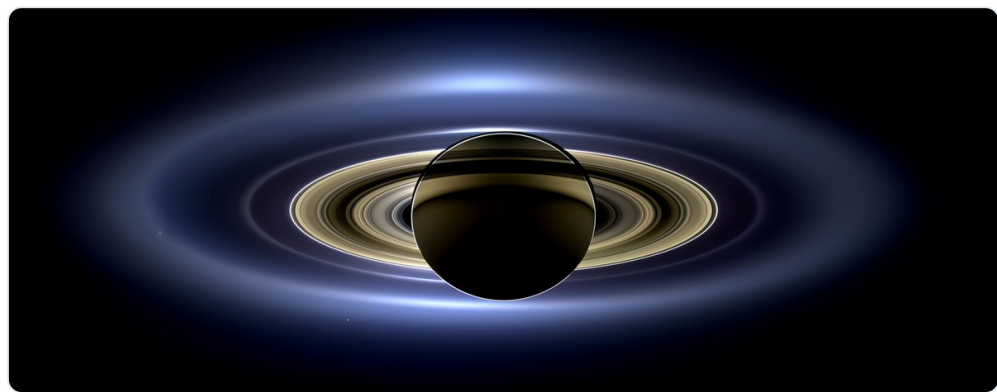
30/ I mean, the rings are easily the most iconic thing abt [#Saturn](#). They're huge, impressively thin, bright, with insanely complex structure

31/ Funny story: Galileo "discovered" the rings in 1610 but he didn't know what they were. In fact, he called them [#Saturn](#)'s "Ears"

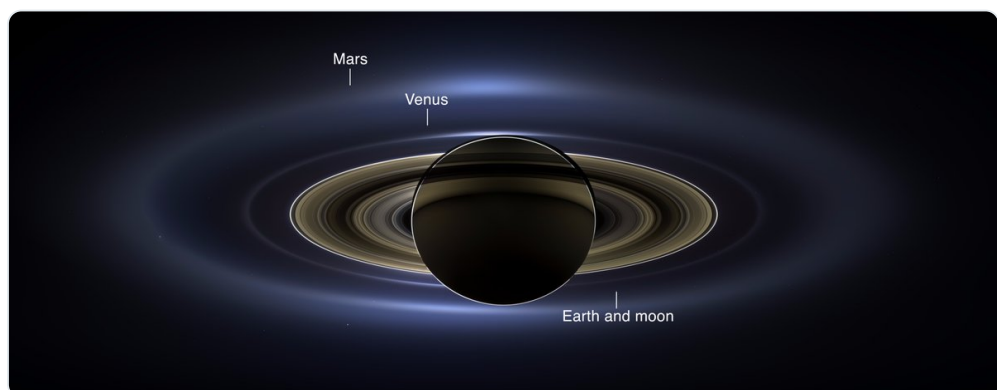


32/ Anther funny story: every time I google "Rings of Saturn" I get links to an american deathcore metal band. They have some cool album art

33/ This image was taken when the Sun was on the other side of [#Saturn](#), illuminating the rings from [@CassiniSaturn](#)'s POV [#GrandFinale](#)



34/ taken July 19, 2013 it's AKA "The Day the [#Earth](#) Smiled" because we're all visible in the picture! Also [#Mars](#) and [#Venus](#) are there too!



35/ "That's here. That's home. That's us ... on a mote of dust, suspended in a sunbeam." This image makes me think of Sagan [#GrandFinale](#)



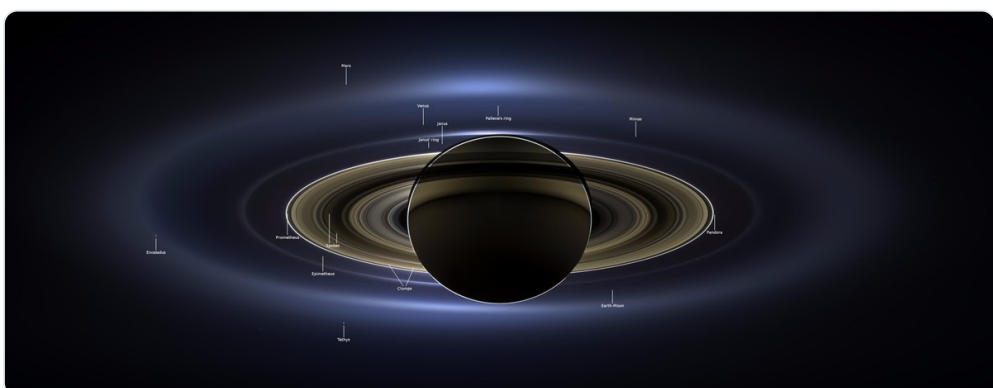
36/ It was only the 3rd time [#Earth](#) had been imaged from the outer solar system, and the first time we knew in advance it was going to happen!

37/ Hence, "The Day the Earth Smiled." It's worth posting again. I think this is my favourite image [@CassiniSaturn](#) took [#GrandFinale](#)



38/ Beautiful [#GrandFinale](#)

39/ As one can imagine, this picture ALSO had a bunch of [#Saturn's](#) moons in it, as well as impressive details on the rings. [#GrandFinale](#)

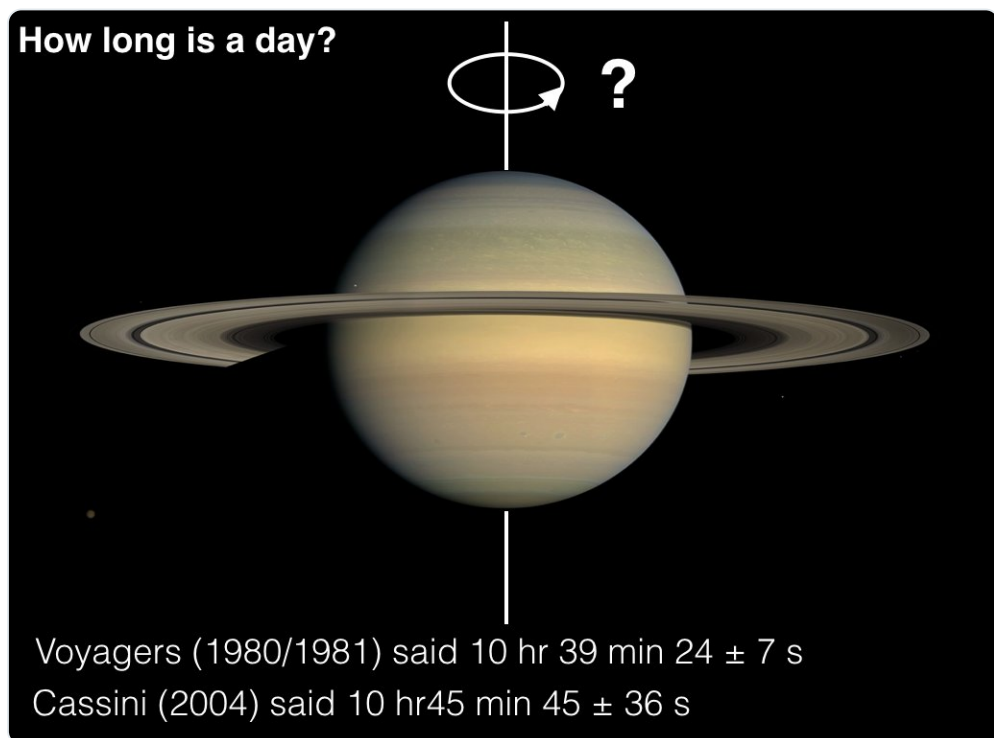


40/ The [@CassiniSaturn](#) imaging team has a detailed rundown of the image. Definitely worth a read [#GrandFinale ciclops.org/view/7699/The-...](#)



41/ Believe it or not, we still don't know exactly how long a day is on [#Saturn](#). You would think it's an easy planetary property to measure

42/ [@NASAVoyager](#) measured 10h39m24s in 1980/81, but upon arrival [@CassiniSaturn](#) measured 10h45m45s. They can't both be right? [#GrandFinale](#)



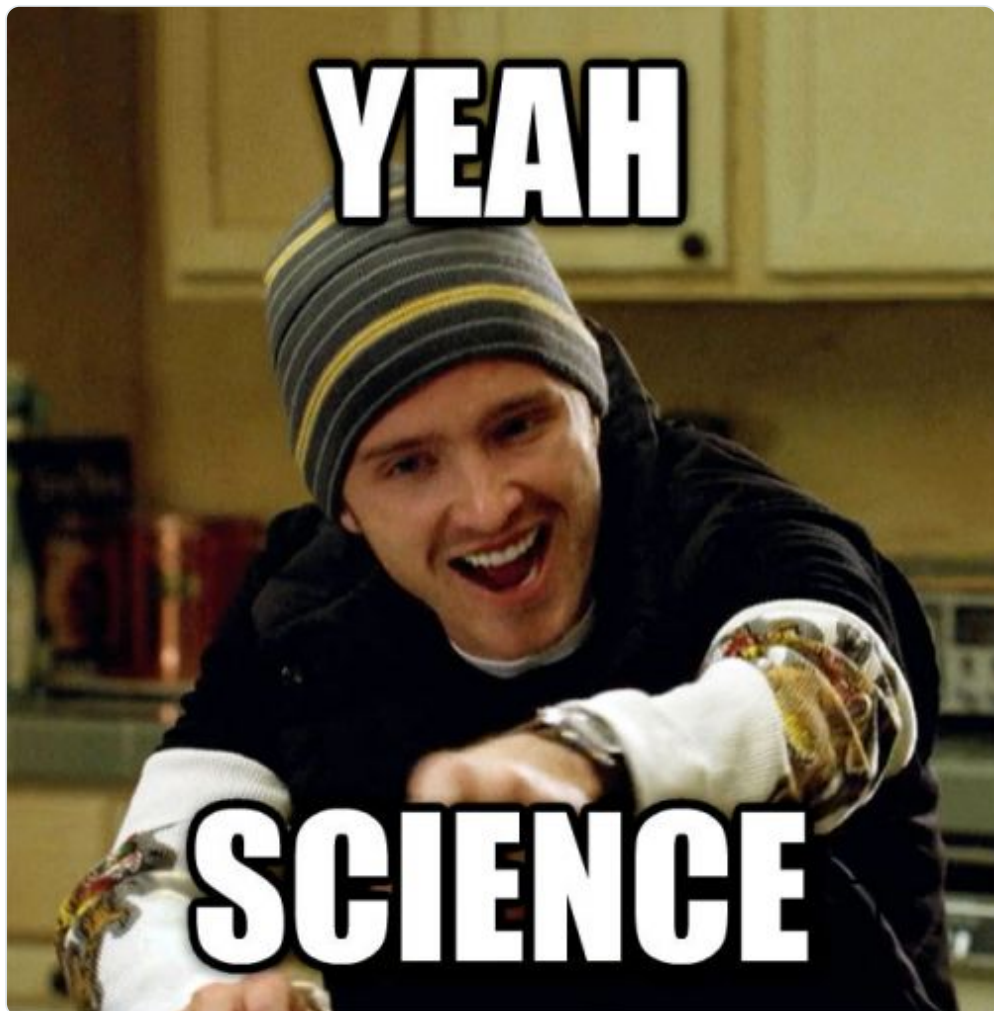
43/ this begs the question: how do we measure a planet's day? Can't you just count how long it takes for a surface feature to go around?

44/ historically this has been tough with [#Saturn](#), because its surface is so damn uniform there's nothing to track! (image via Björn Jónsson)

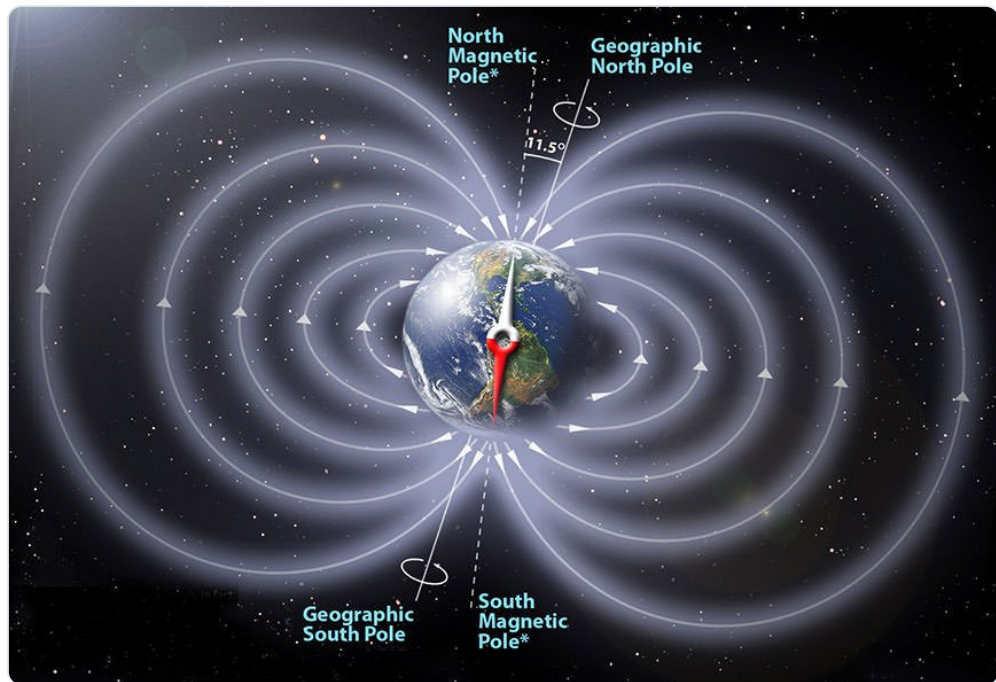




45/ planetary scientists have found a way around this, however, by simply measuring the rotation of a planet's magnetic field. [#grandfinale](#)

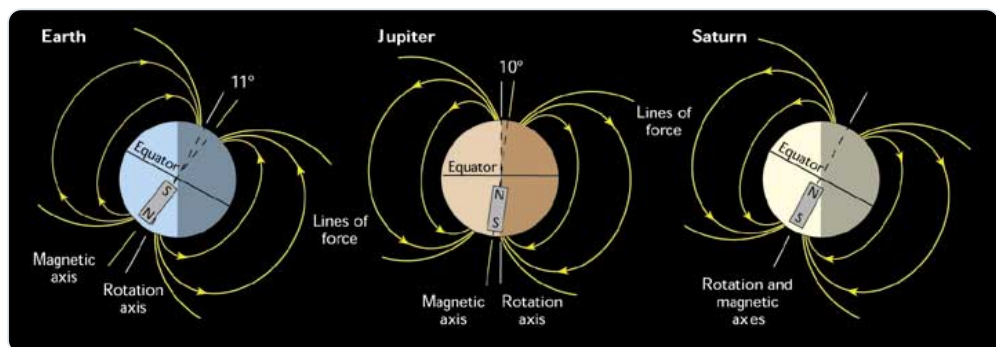


46/ On Earth, our mag field is not aligned with our geo axis, thus, every time the Earth spins once, the mag field "wobbles" [#grandfinale](#)



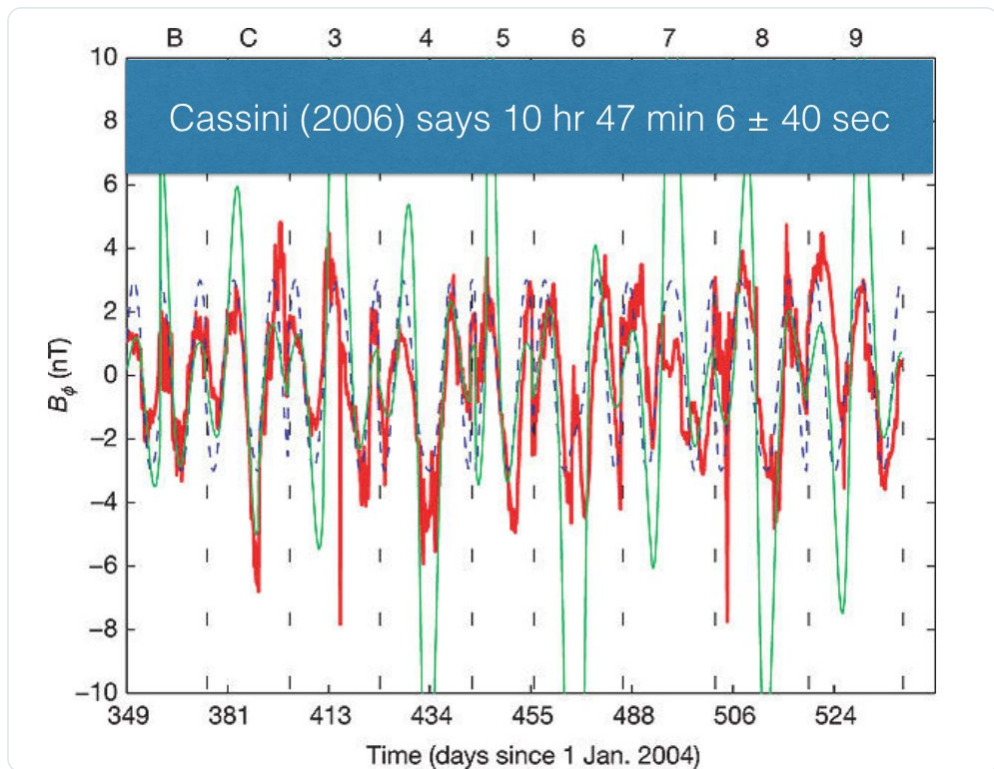
47/ Apply this same theory to [#Saturn](#) and we should be able to measure the day, right? WRONG. Saturn isn't going to make it that easy

48/ [#Saturn](#)'s Magnetic field is almost perfectly aligned with its rotation axis. That means no mag field wobble while it spins [#GrandFinale](#)



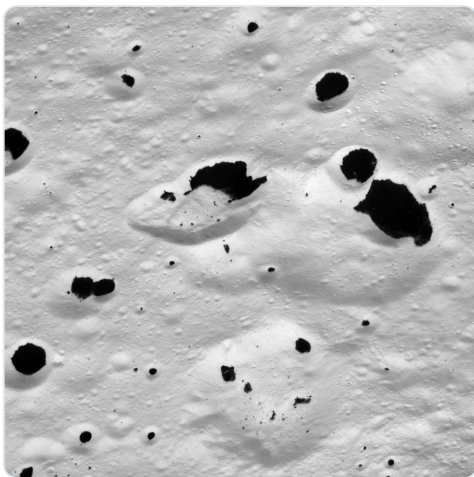
49/ Nevertheless, attempts were made with [@CassiniSaturn](#) and the length of day turned out to be 6 min longer than measured by [@NASAVoyager](#)

50/ Another unexpected result! After [@CassiniSaturn](#) took data for two more years, a more refined measurement: 10h47m6s [#GrandFinale](#)



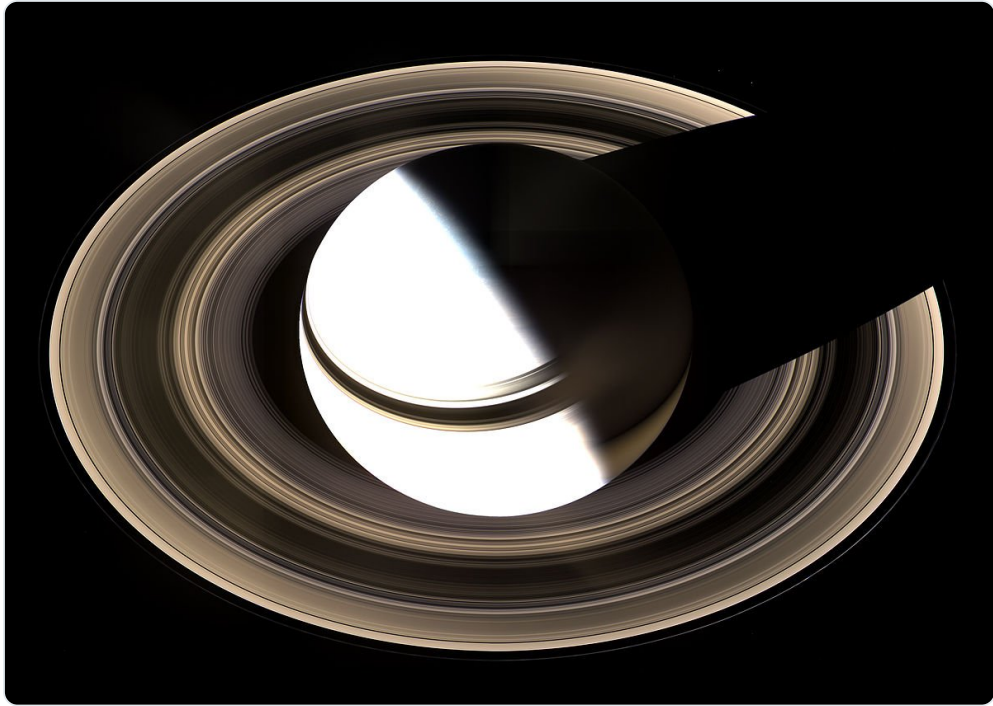
51/ I honestly don't know how long [#Saturn](#)'s day is, but I've heard times ranging from 10h 30 m up to 10 h 50 m. [#GrandFinale](#)

52/ Check out this super close-up of [#Saturn](#)'s moon Iapetus (36 m/pix). The tones are overlapping, dark soil covered by lighter [#GrandFinale](#)



53/ By mid 2008, [@CassiniSaturn](#) had completed its mission! 4 years orbiting the ringed world. This image was taken Jan 2008 [#GrandFinale](#)



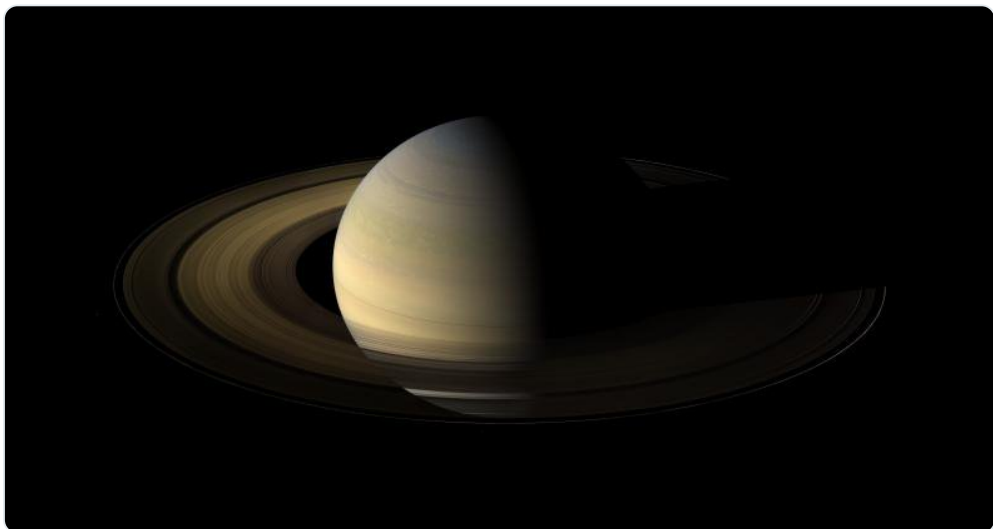


54/ Of course story doesn't end there. [@CassiniSaturn](#)'s mission was extended to 2010, which would take us through [#Saturn](#)'s equinox

55/ It was officially renamed to the Cassini Equinox Mission, and would include 60 more orbits of [#Saturn](#), flybys of many moons [#GrandFinale](#)

56/ [#Saturn](#)'s axis is tilted like Earth, so it has solstices/equinoxes. At Equinox, the rings are parallel to the plane of Saturn's orbit

57/ [@CassiniSaturn](#) was there in Aug2009 at the moment of Equinox and snapped this image. Can you find the shadow of the Rings? [#GrandFinale](#)

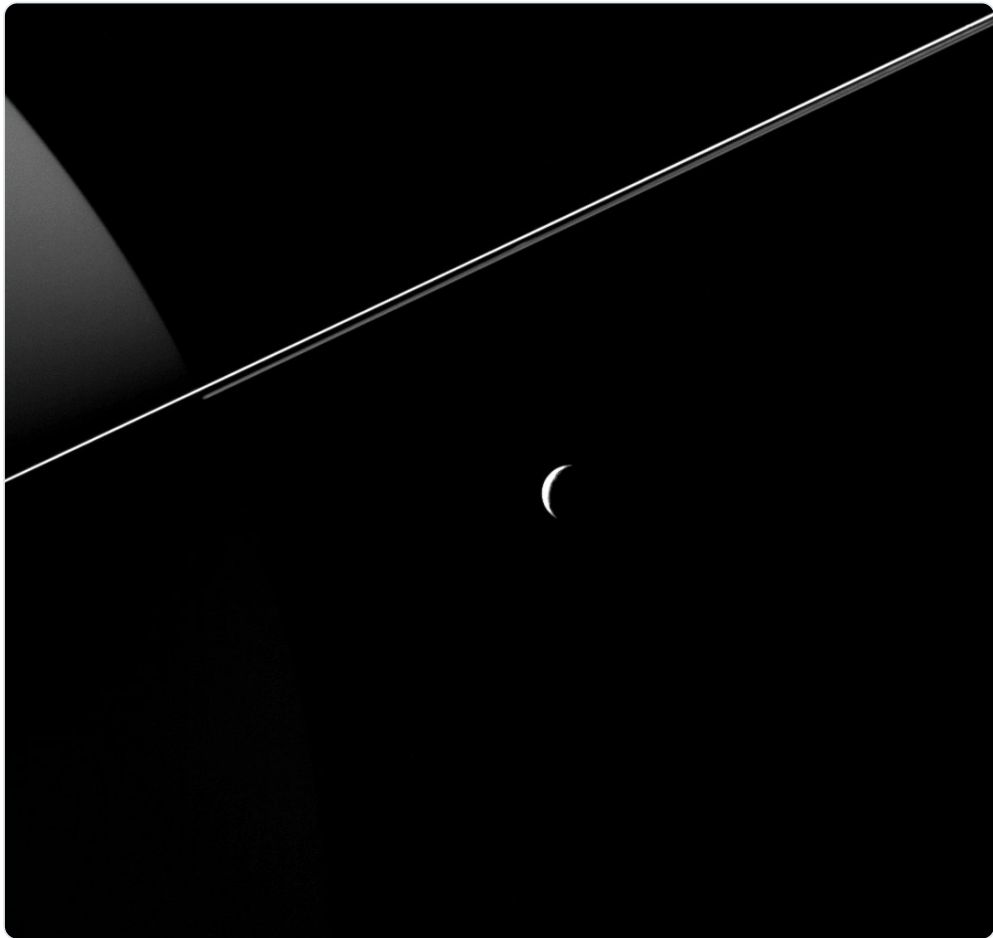


58/ With [#Saturn](#) at Equinox, the rings were seen as edge-on. And the rings are insanely flat. It's incredible how flat they actually are

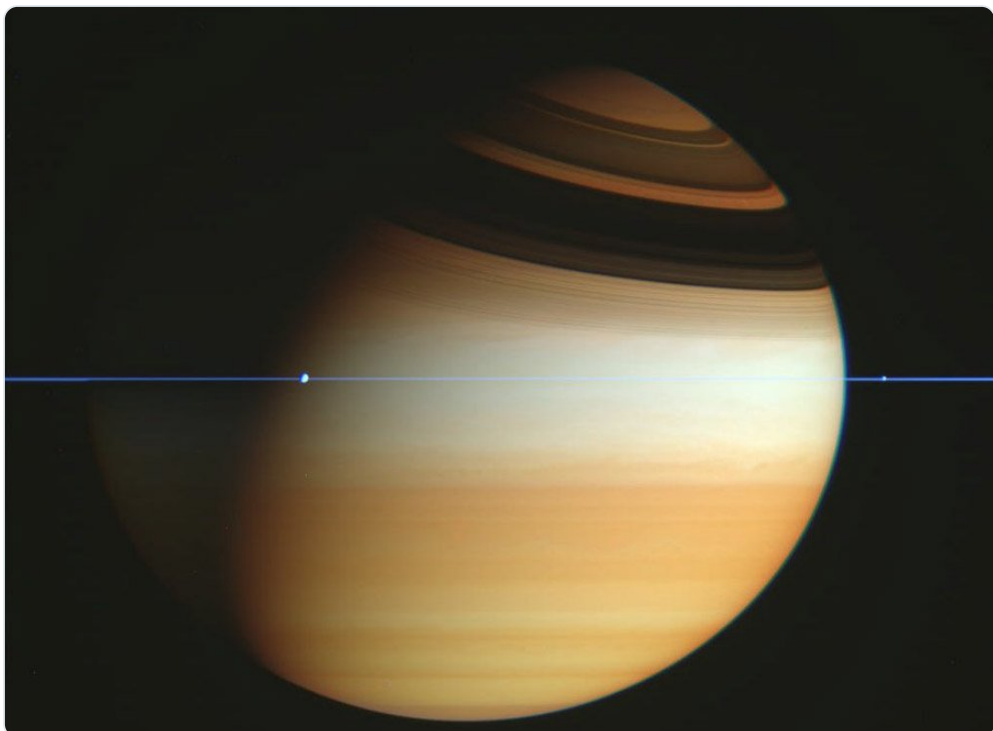
59/ The rings are 160,000 km wide and less than 1km thick, even as little as 10m thick at some points. 10 metres! [#grandfinale](#)



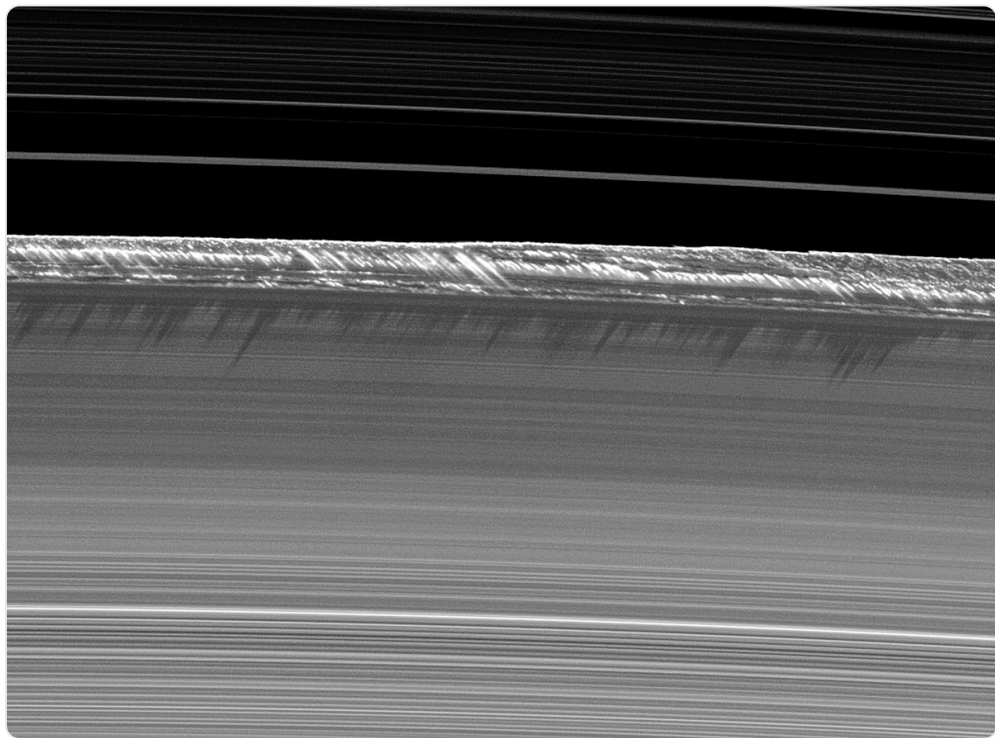
60/ That's a 1:160000 ratio. regular paper has a ratio of 1:2794. Making the [#rings](#) of [#saturn](#) technically flatter than a piece of paper



61/ Look at that! The rings are SO flat. During Equinox, Earth can see this but [@CassiniSaturn](#) was able to do many ring crossing orbits

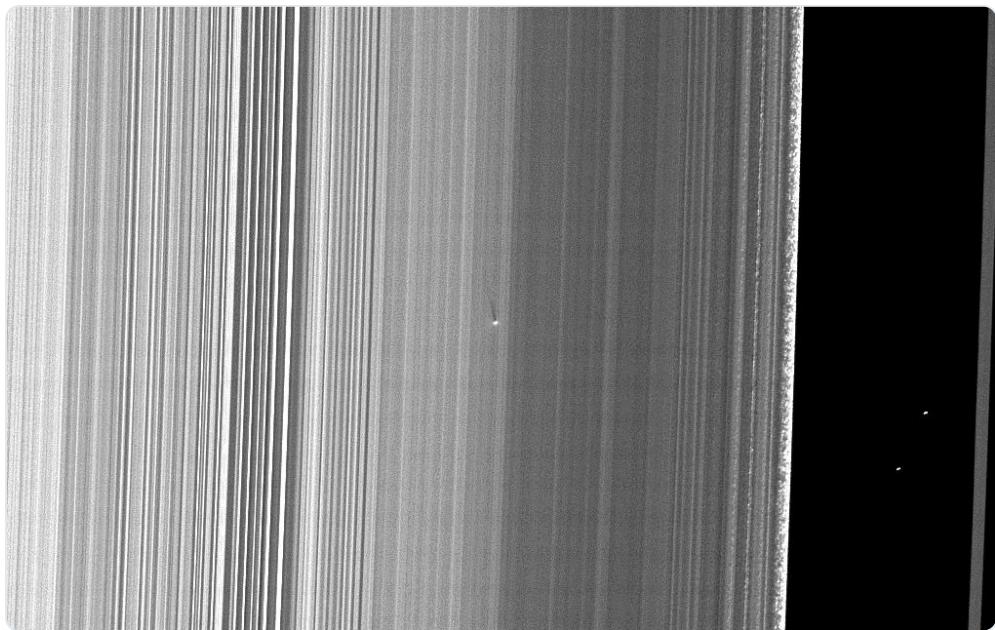


62/ Since [#Saturn](#)'s rings are so flat, even small irregularities are easily visible at [#Equinox](#), because they cast long shadows [#GrandFinale](#)

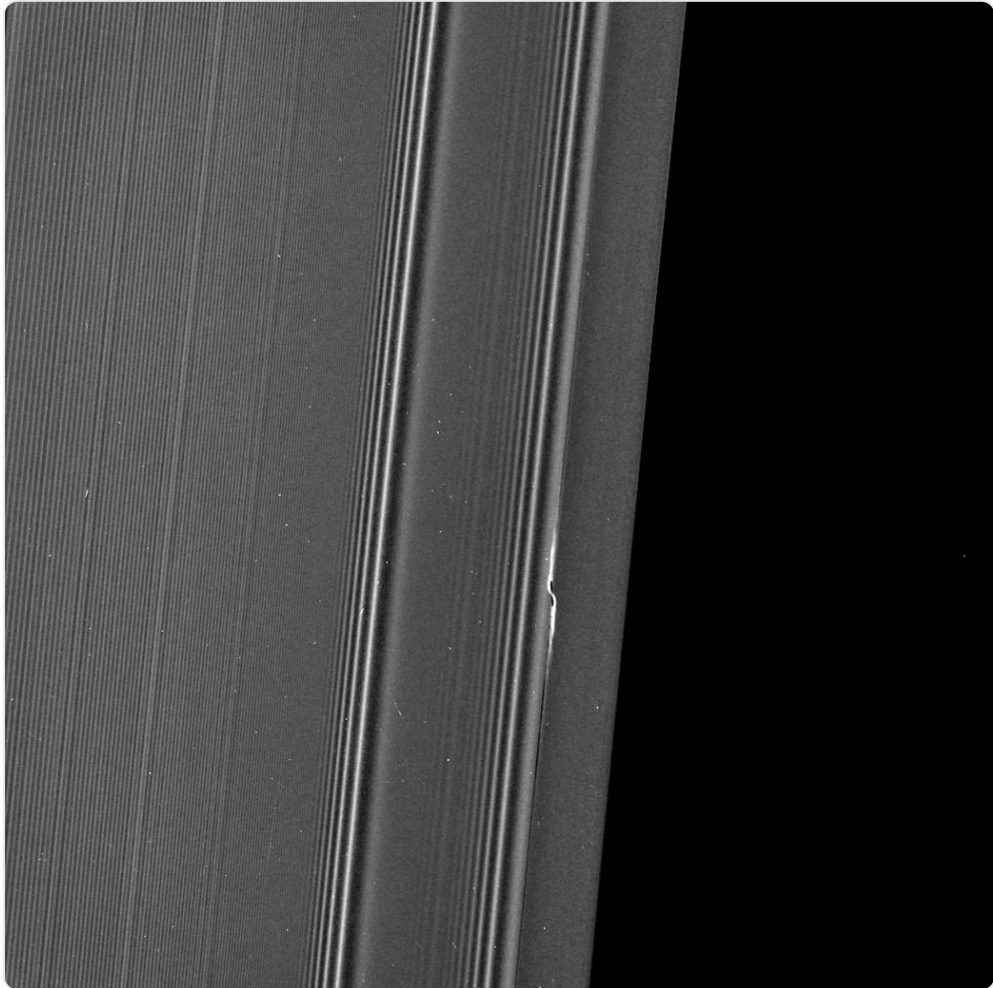


63/ in the previous image, the shadows cast on the rings are being created by structures within the rings that are 2.5 km high [#GrandFinale](#)

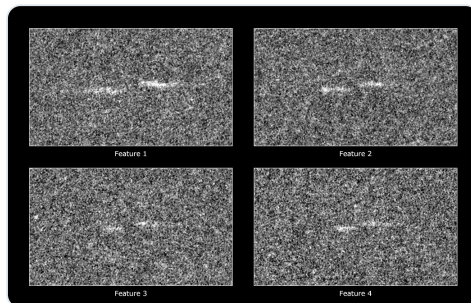
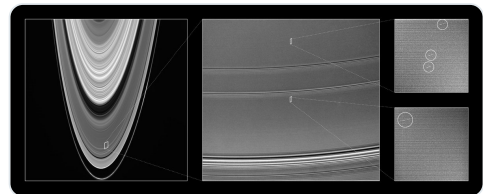
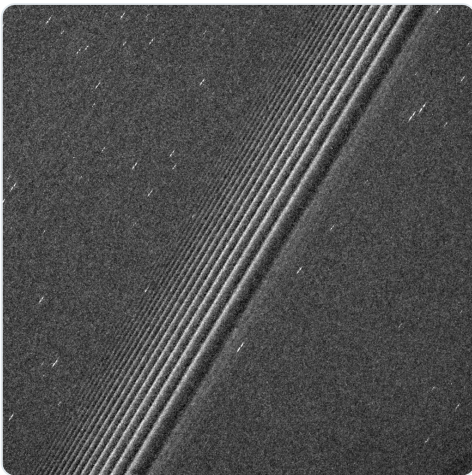
64/ Look at THIS one! Holy. The shadow is 36 km long cast by an object about 300 metres in diameter embedded within the rings [#GrandFinale](#)



65/ One of the coolest things [@CassiniSaturn](#) found in the rings were propeller features. Like the "Earhart Propeller" [#GrandFinale](#)

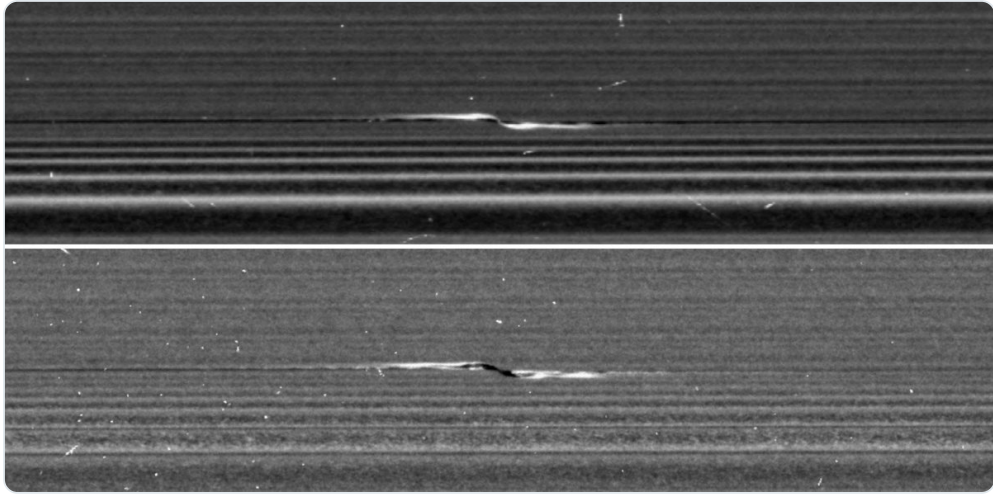


66/ There are so many of them! propellers everywhere [#GrandFinale](#)

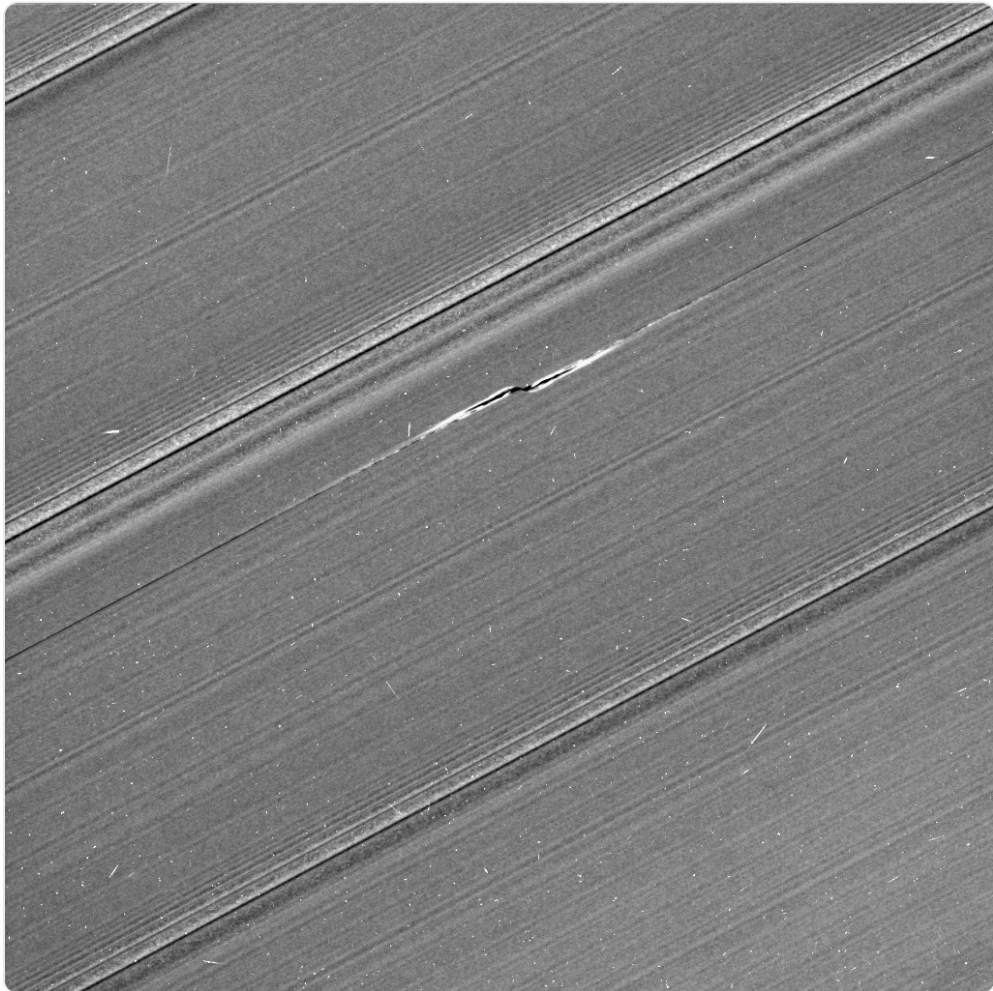


67/ This one is called the "Santos-Dumont" after the Brazillian-French aviator



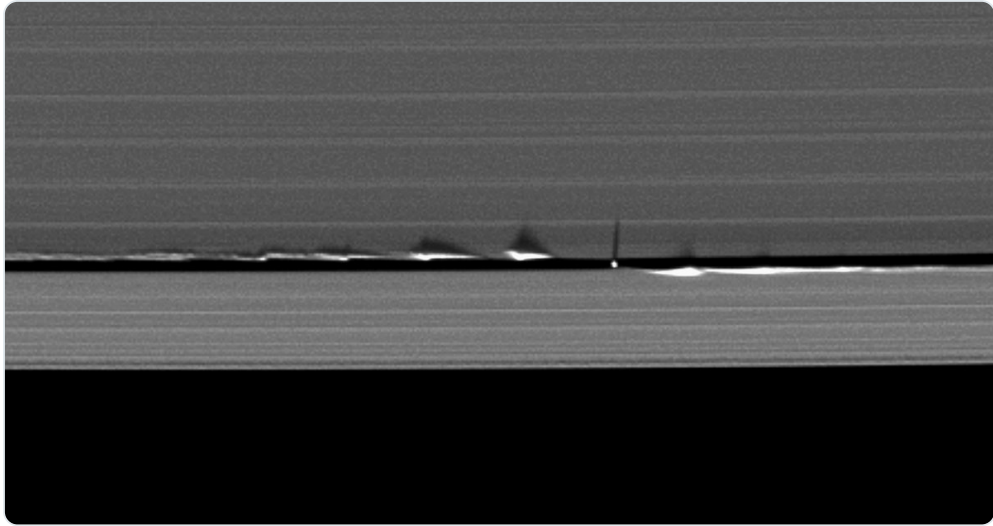


68/ Celui-ci porte le nom "Blériot;" l'aviateur français. Mais, quelle sont leur origine? [#GrandFinale](#)



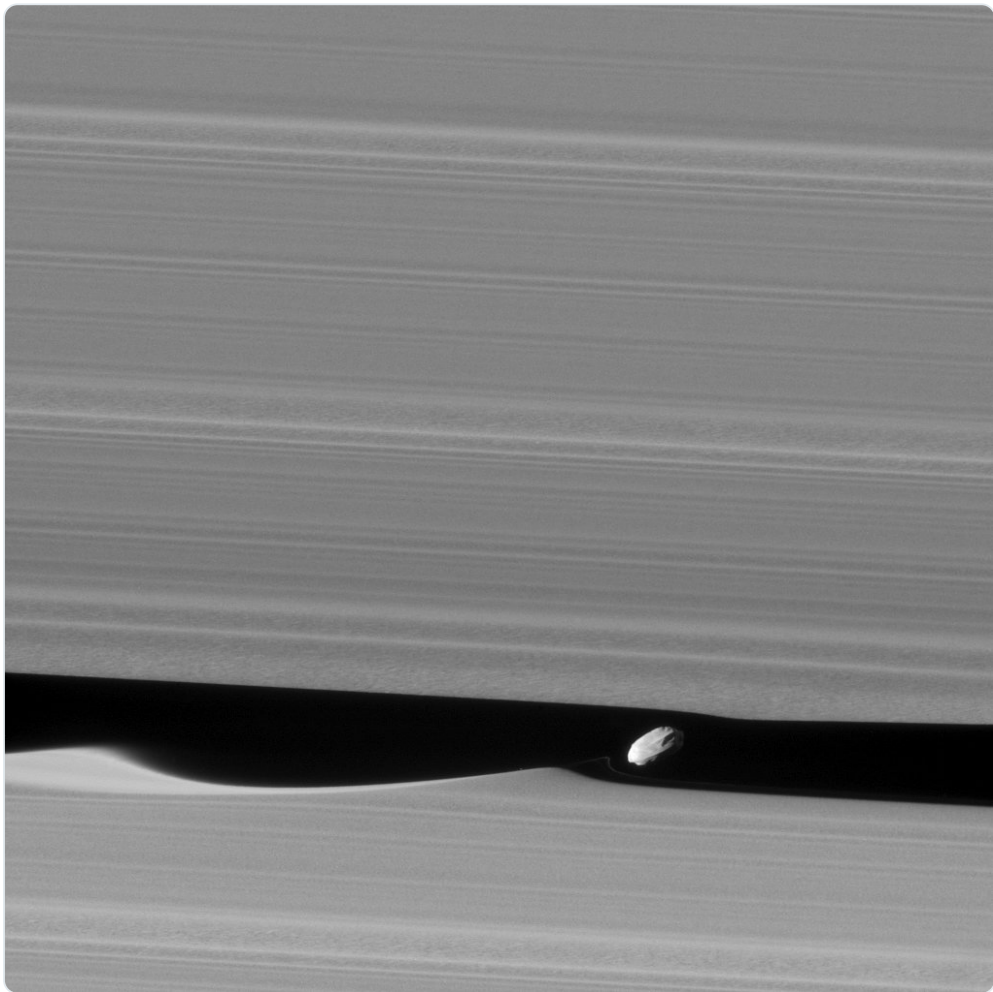
69/ Here's a much larger and more dramatic example that [@CassiniSaturn](#) found, hinting at the origins of all the propellers [#GrandFinale](#)





70/ They're Moonlets! Tiny little moons that live in the rings of [#Saturn](#). The previous image is that of the moon Daphnis [#GrandFinale](#)

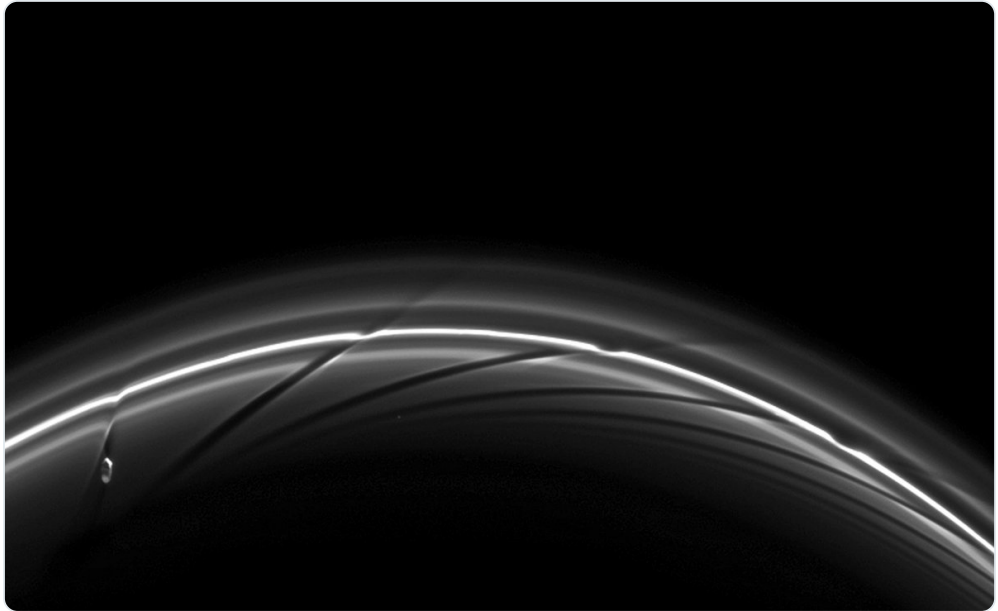
71/ A closer image of Daphnis. Its gravitational influence has carved out the Keeler Gap and continues to influence the edges [#GrandFinale](#)



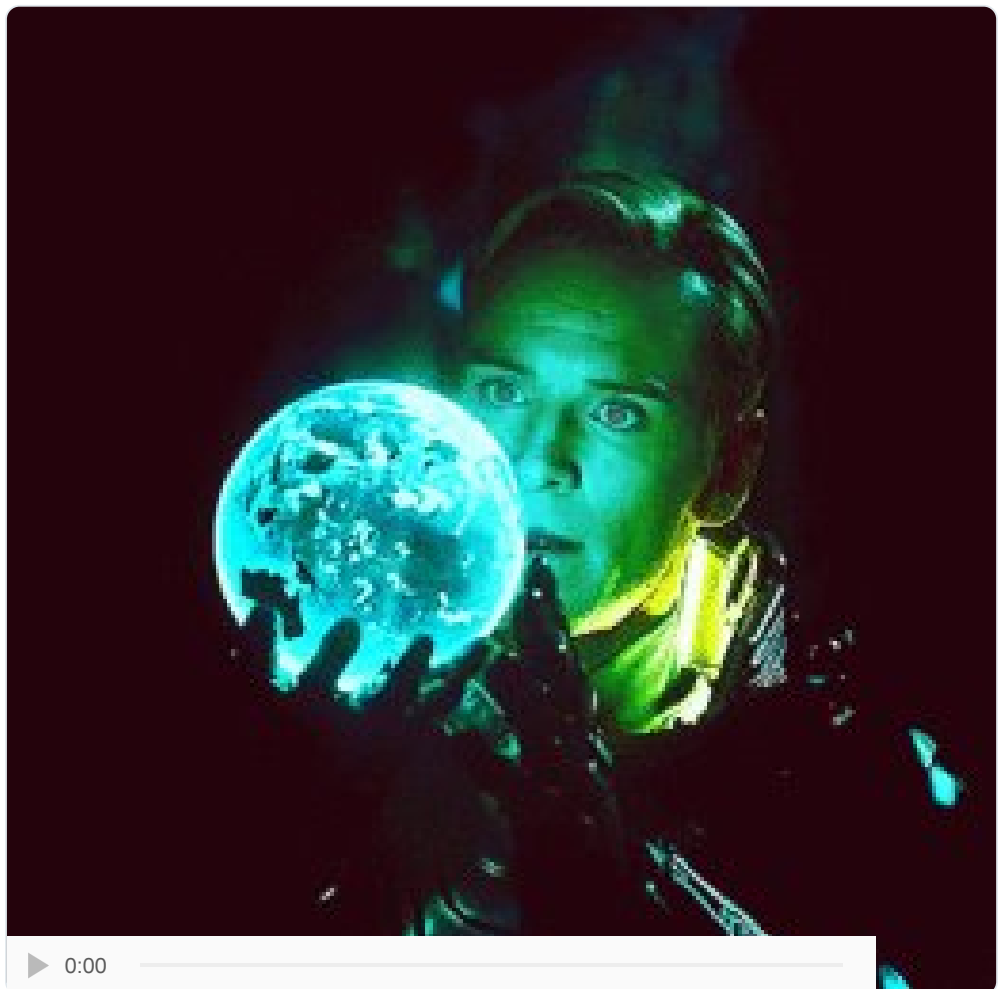
72/ A zoom-out of Daphnis. It is next to the F ring, which ALSO sports gravitational perturbations by the moon Prometheus [#GrandFinale](#)



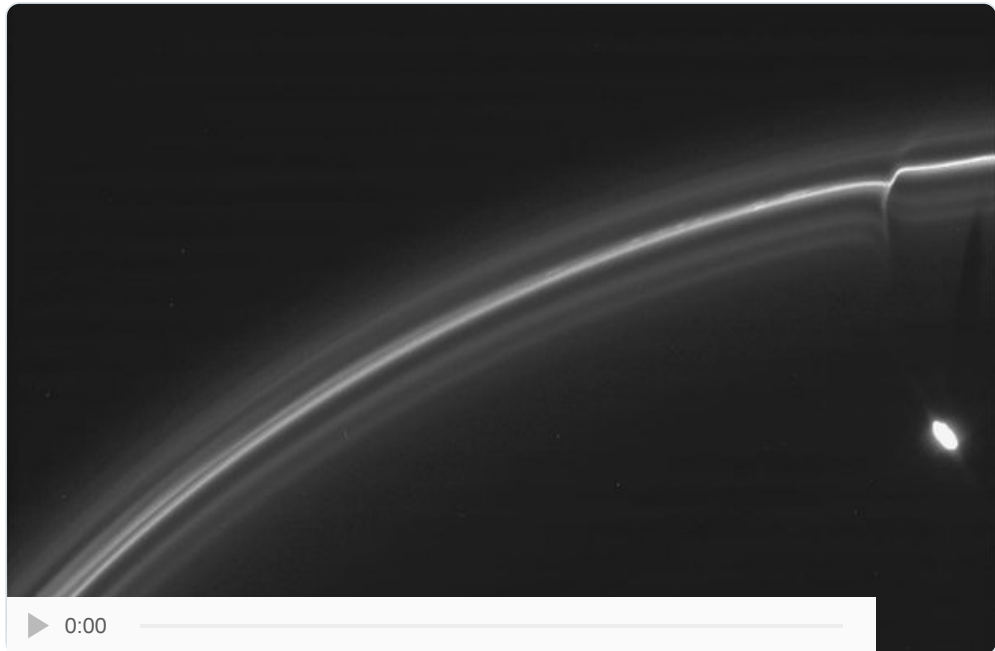
73/ Here's Prometheus making its mark on the wispy F ring. Look at that! It's beautiful! [#GrandFinale](#)



74/ also, is it just me, or when you hear 'Prometheus' do you think...



75/ ...back to the MOON Prometheus, here's an awesome gif of the little moon 'Shepherding' the F ring [@CassiniSaturn](#) [#GrandFinale](#)

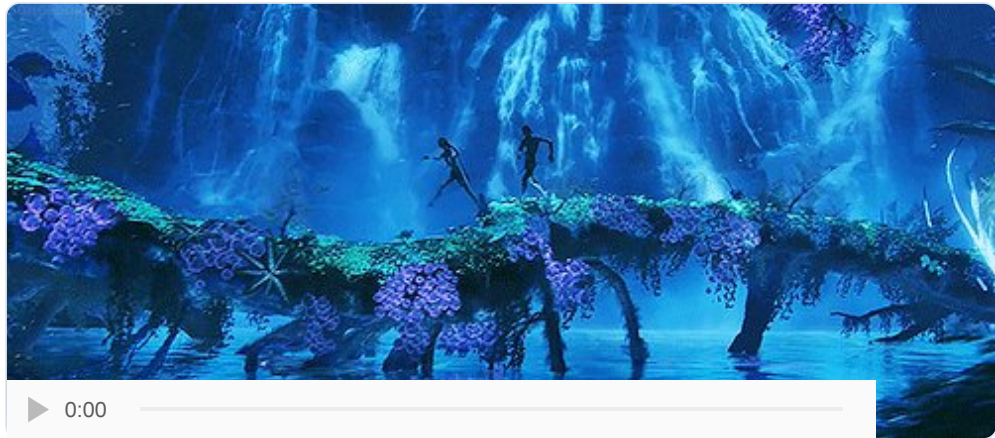


76/ Here's another, Prometheus on the right, and the moon Pandora is on the left. The F ring in the middle [#GrandFinale](#)



77/ yup you read that right, Prometheus and Pandora both orbit Saturn. Bet you didn't know Aliens and Avatar were set in the same universe..

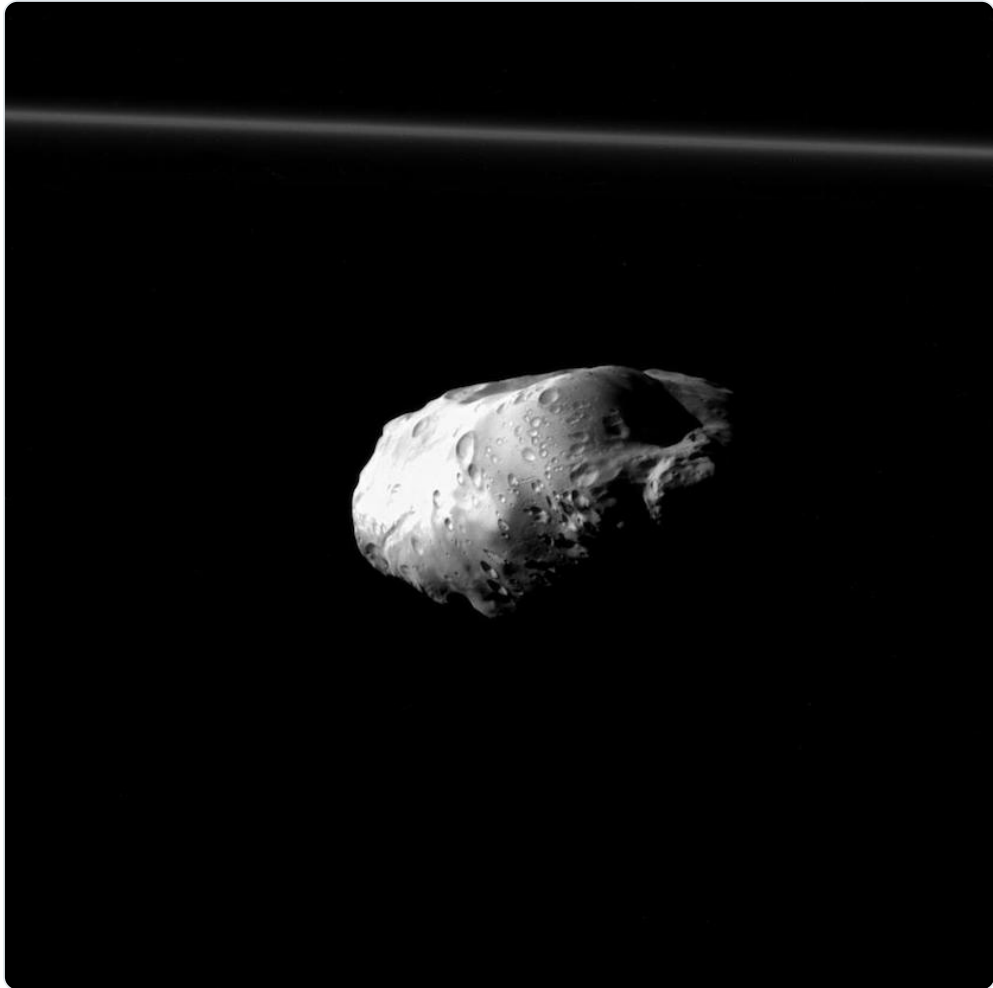




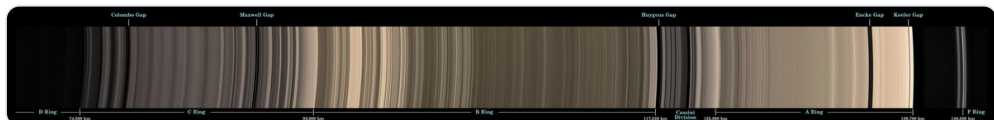
78/



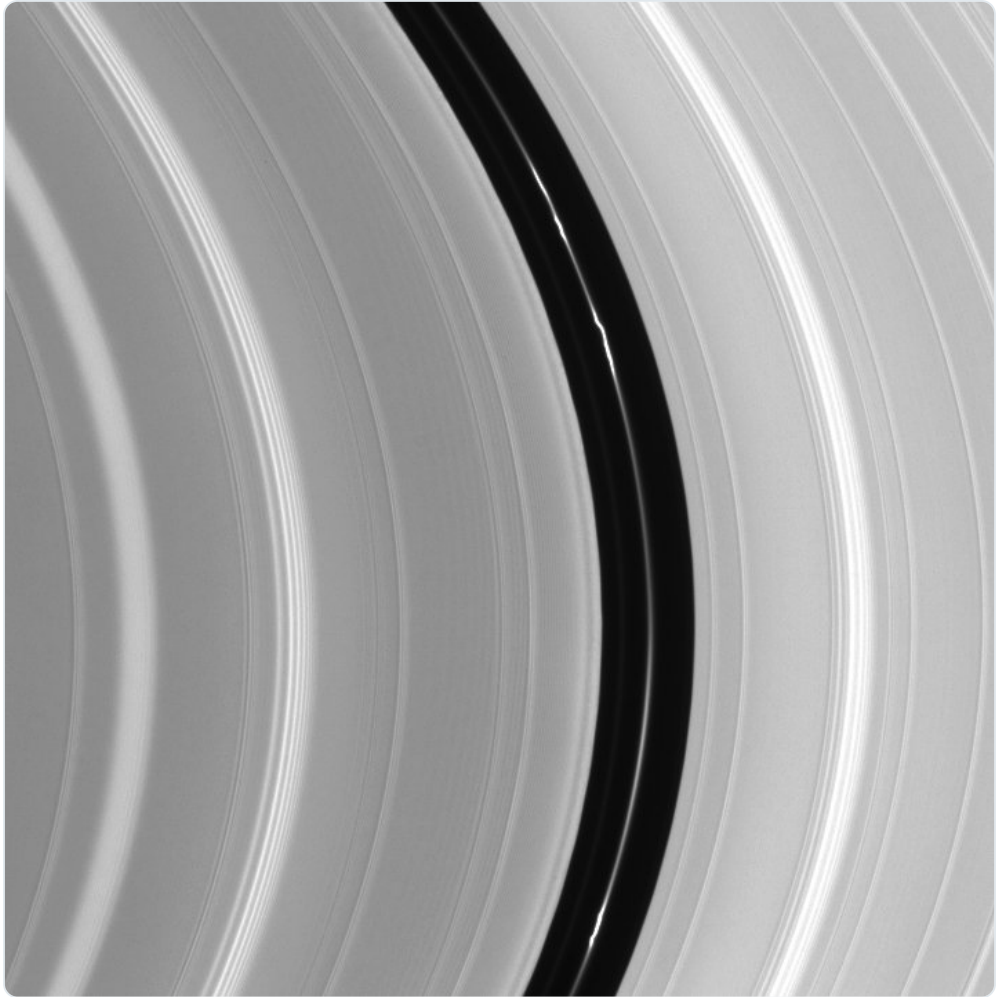
79/ My movie sleuthing powers aside, here's a close up image of Prometheus. It's a tiny moon just 86x53km, F ring in background [#GrandFinale](#)



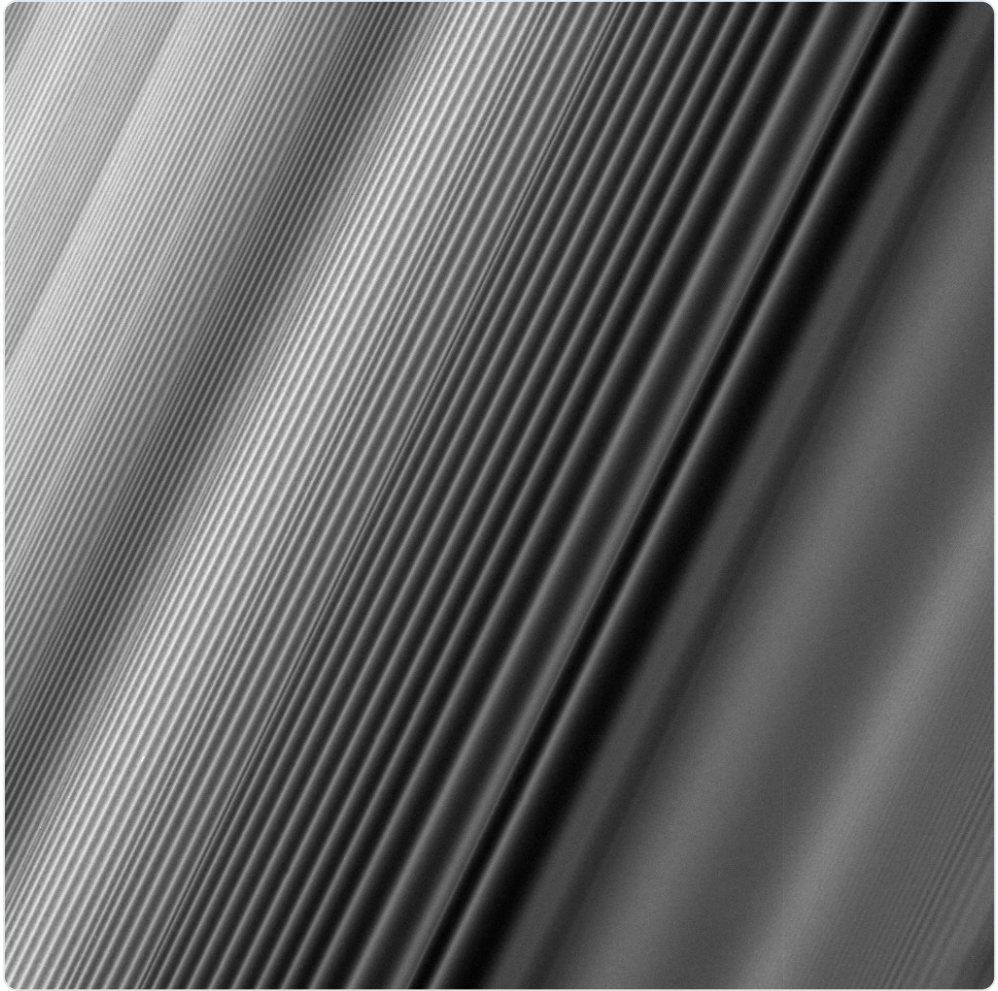
80/ Here's the entire ring structure... A mosaic with every ring, gap, and the distance scale along the bottom [#GrandFinale](#)



81/ The Encke Division is 300 km wide and has a tiny moon named Pan (20 km wide) within it. More gravitational perturbations [#GrandFinale](#)

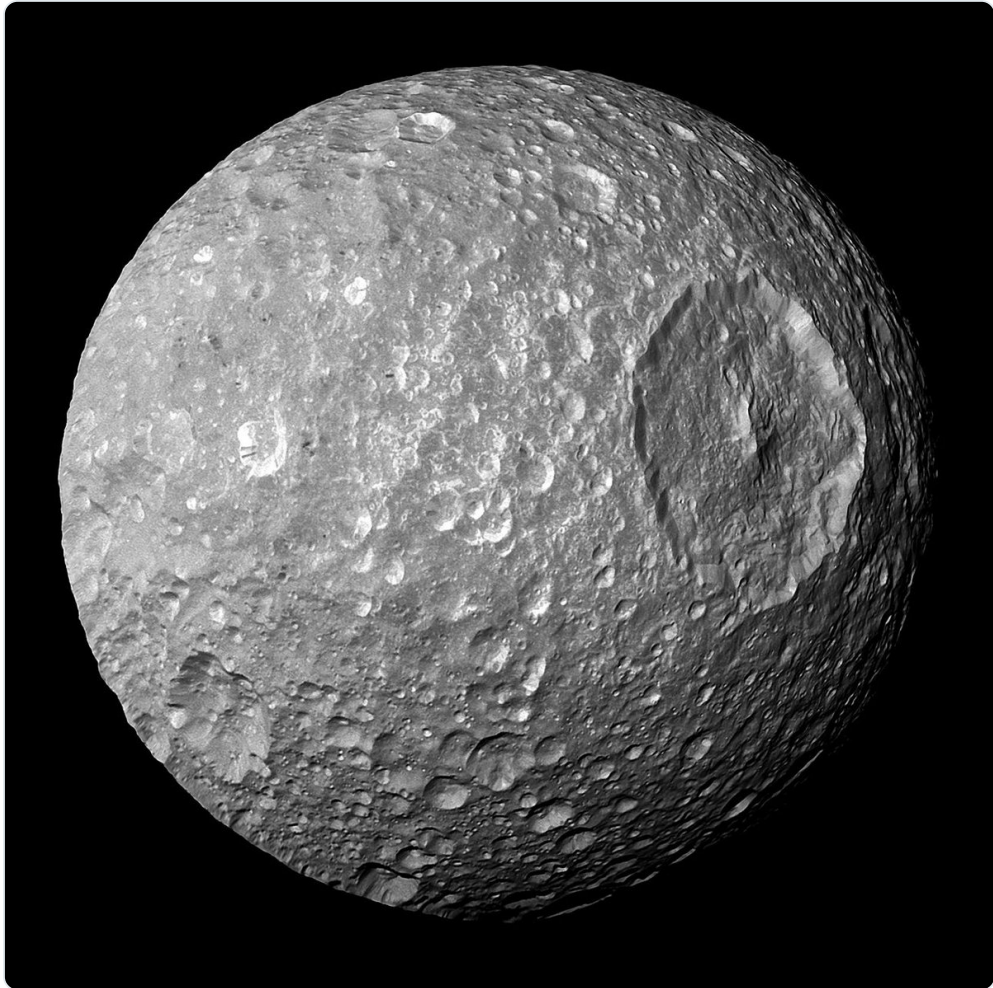


82/ Perhaps my *\*favourite\** image of the rings is this one: showing waves in the rings produced by the moon Janus' 2:1 orbital resonance



83/ Okay onto some other stuff. How about Mimas, the "Death star Moon."  
[@CassiniSaturn](#) snapped this shot in 2010 [#GrandFinale](#)

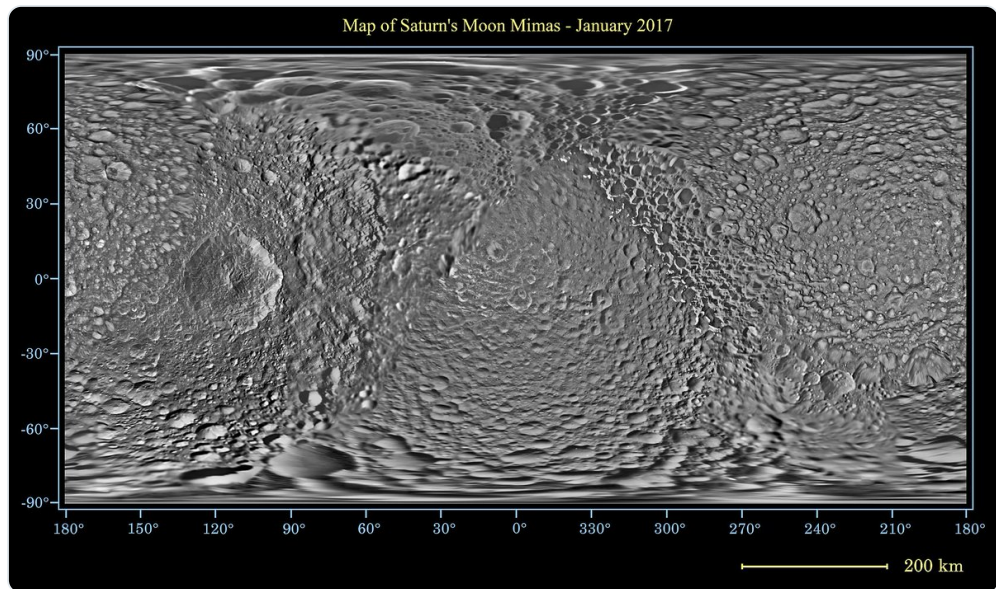




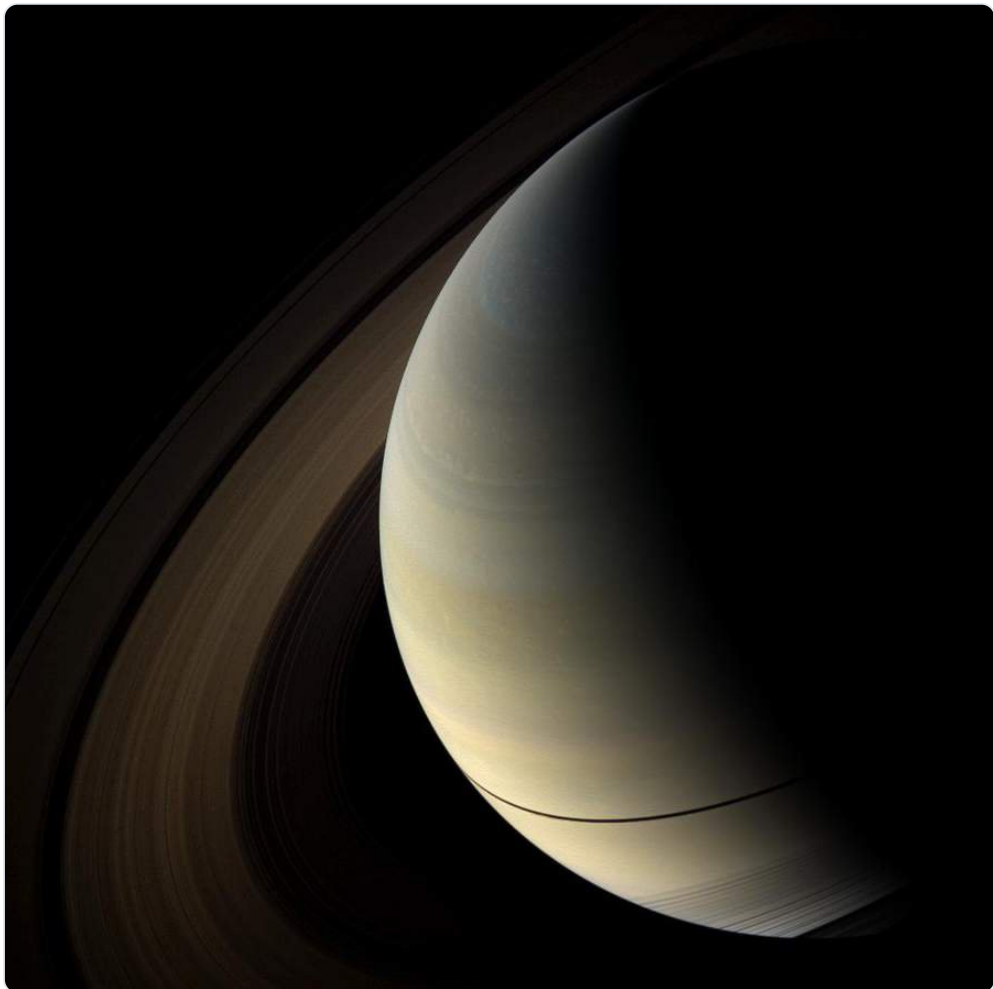
84/



85/ Mimas, roughly 400km wide, sports a \*massive\* impact crater, called Herschel, 140 km wide. It's 30% the width of the Moon! [#GrandFinale](#)



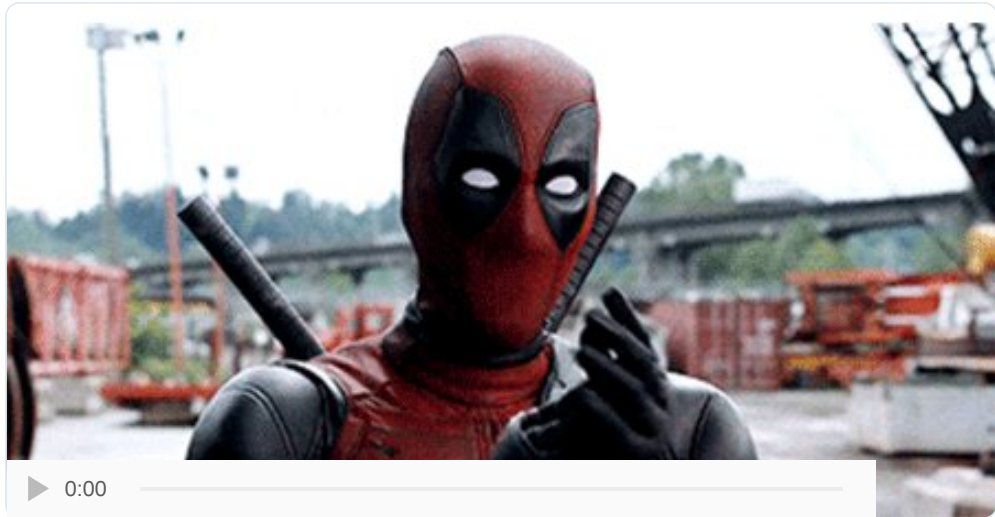
86/ The [@CassiniSaturn](#) Equinox Mission wrapped up in 2010, but have no fear, the mission was extend to Sept 2017 [#GrandFinale](#)



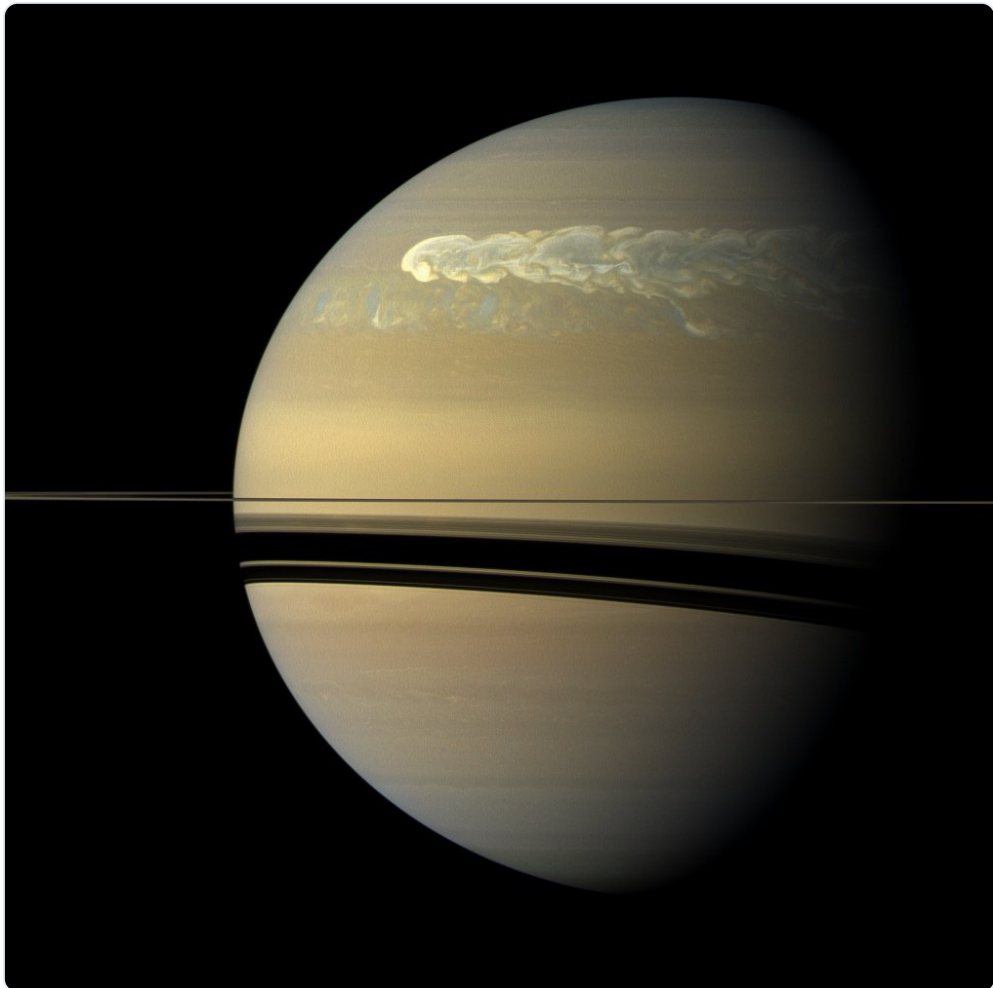
87/ This would take [@CassiniSaturn](#) through to summer solstice in the northern hemisphere, making the mission last a half a Saturnian year

88/ After hearing [@CassiniSaturn](#) was extended for another 7 years, planetary scientists were reached for comment:

[#GrandFinale](#)

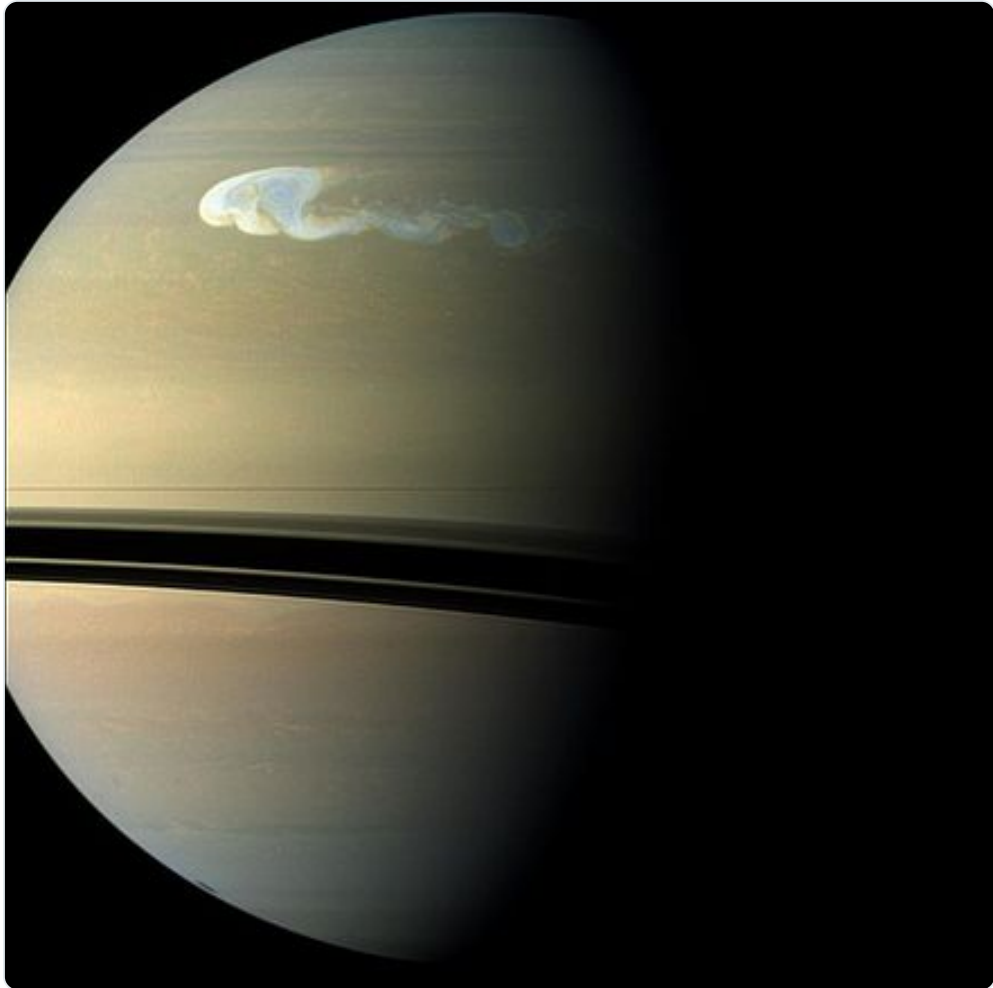


89/ Just AFTER the mission extension in 2010, now officially called the Cassini Solstice Mission, THIS HAPPENED: [#GrandFinale](#)

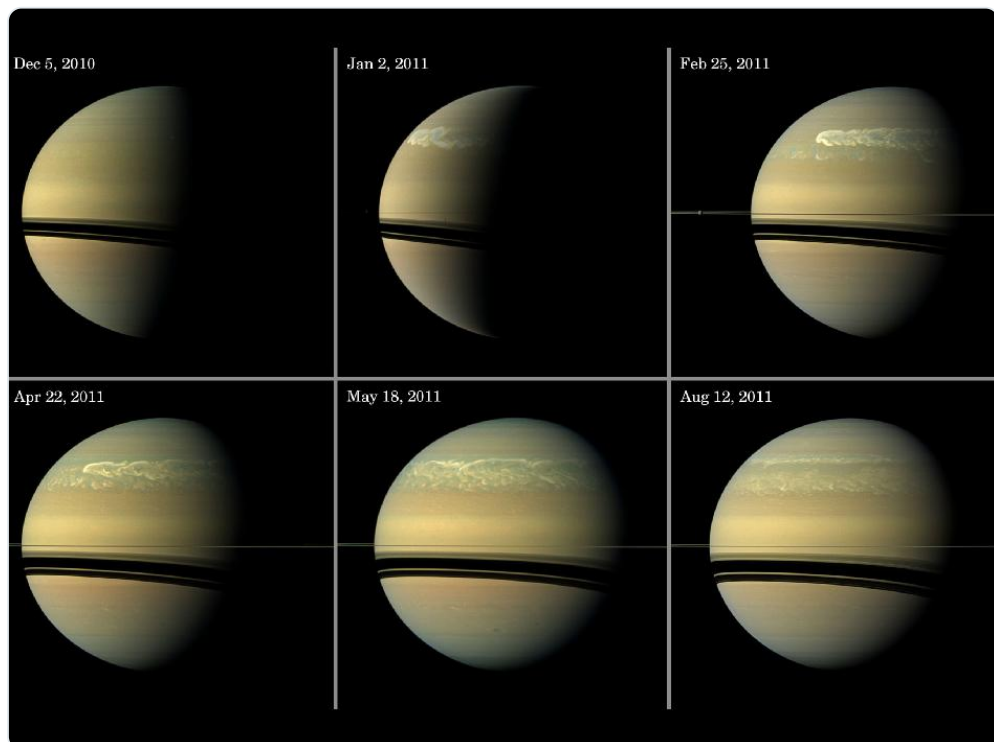


90/ known as the Great White Spot, this storm is larger than Earth, and appears on [#Saturn](#) semi-periodically every 28.5 years [#GrandFinale](#)



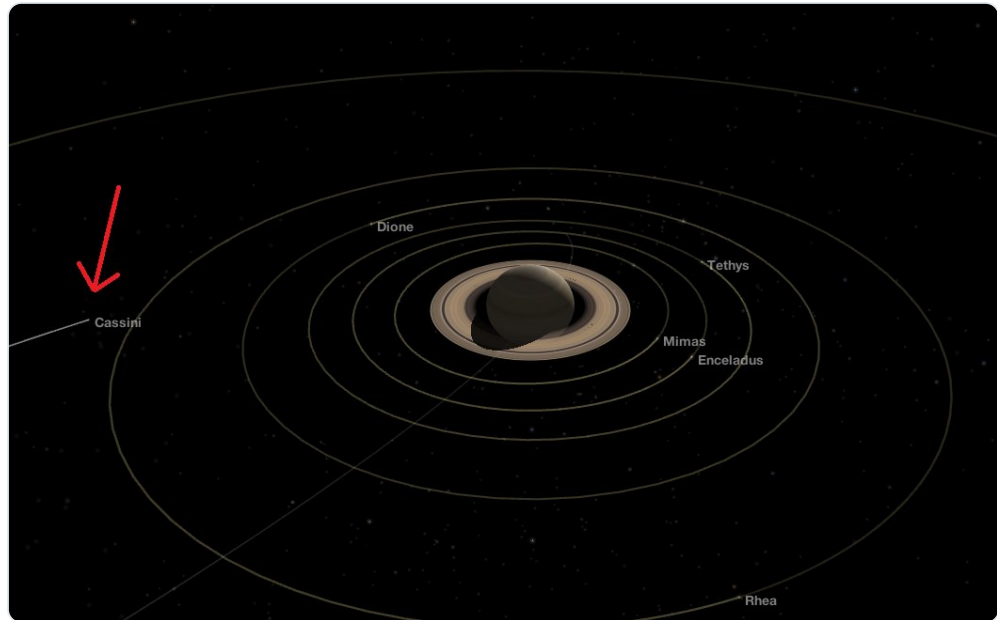


91/ As [#Saturn](#) rotated, the storm stretched around the planet and, after a year, eventually engulfed itself in late 2011 [#GrandFinale](#)



92/ FYI, [@CassiniSaturn](#) is only 630000km from [#Saturn](#) right now. 15 hrs away from burning up in the atmosphere [#GoodbyeCassini](#) [#GrandFinale](#)

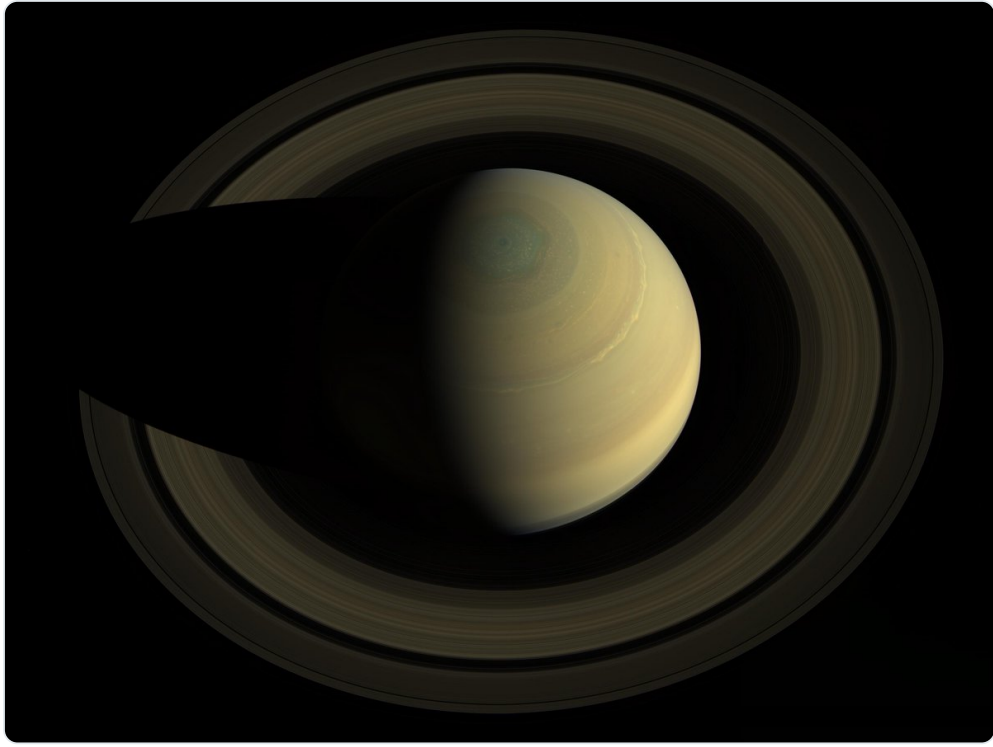




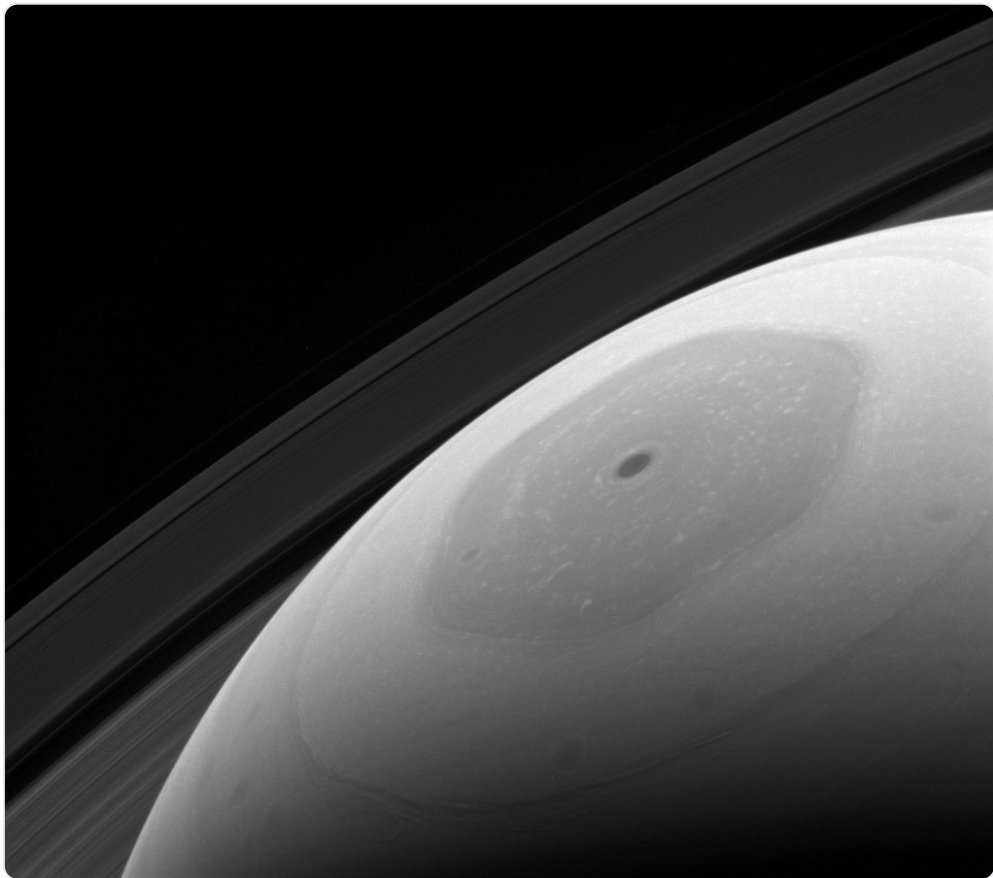
93/A beautiful quintet of moons: Janus, Pandora, Enceladus, Rhea, and Mimas floating in the gravity of Saturn [#GrandFinale](#) [#GoodbyeCassini](#)



94/ This image was the result of the "Scientist for a Day" contest [@NASA](#) ran in Oct 2013. A high orbit over the north pole [#GrandFinale](#)



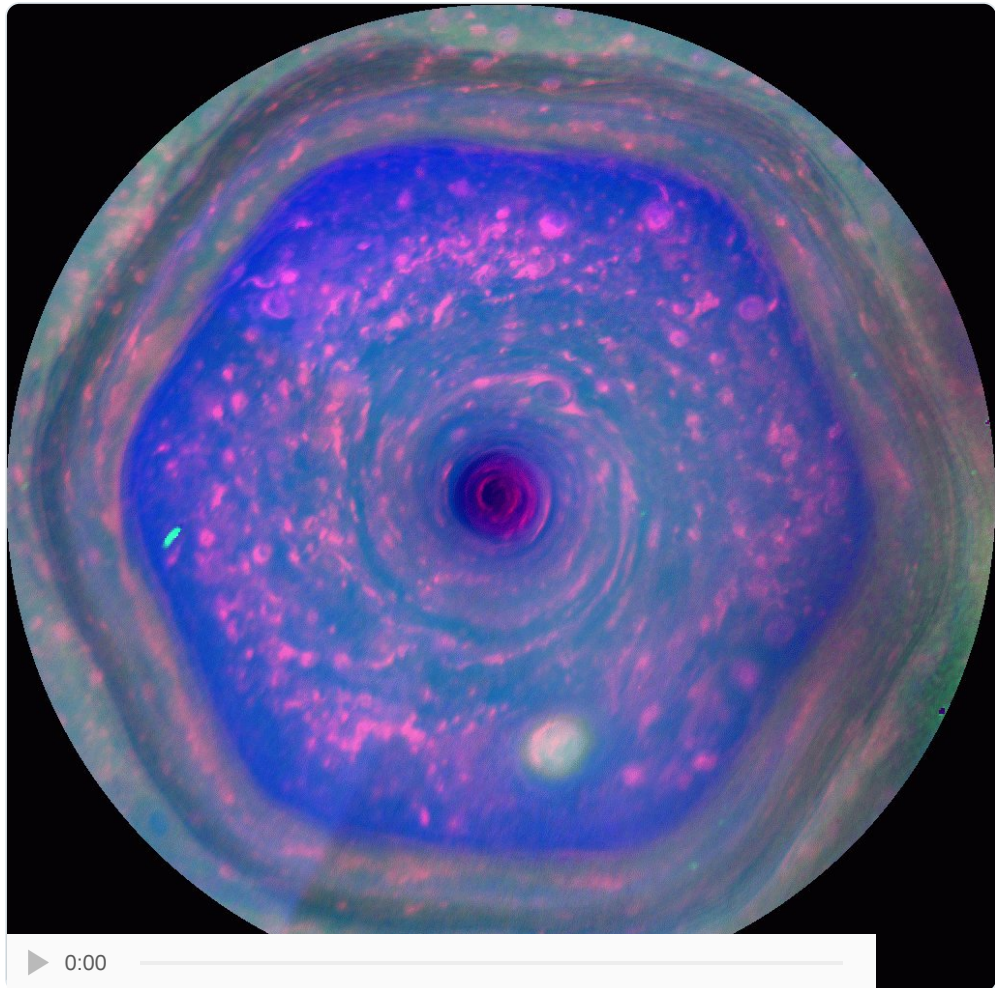
95/ because it was getting closer to summer solstice, the entire north pole is now visible. And LOOK at wind pattern [#GrandFinale](#)



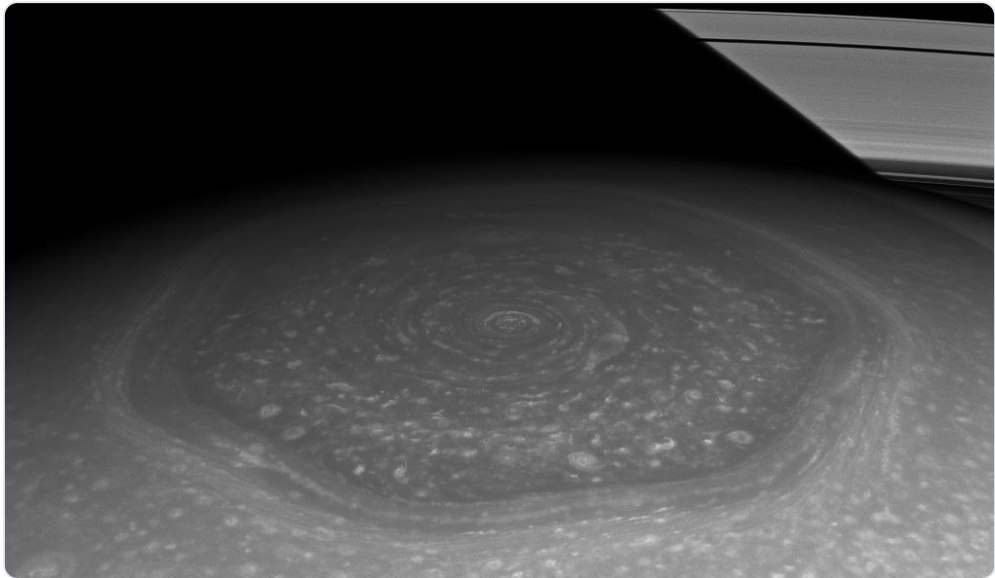
96/ It's a hexagon! ... like... the wind seems to turn at sharp angles.... does wind do that? ... Power Rangers, what do you think?



97/ Here's a full top-down video of the pattern at the north pole. There are some good working hypotheses on why the wind does this, but



98/ ... Planetary scientists are still working it out. [#GoodbyeCassini](#) [#GrandFinale](#)



99/ On June 21, 2010 [@CassiniSaturn](#) made its closest flyby of [#Titan](#) to date, travelling to within 880km of the surface [#GrandFinale](#)





100/ I stacked a set of R,G,B images @CassiniSaturn took of that flyby to make this true colour image of #Titan #GrandFinale



101/ FYI, @CassiniSaturn has now taken its last images EVER of #Saturn and we're downloading the data via the DSN



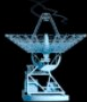




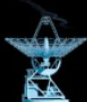










#### Home Page - Deep Space Network

NASA's Deep Space Network is the largest and most sensitive scientific telecommunications system in the world.

<https://deepspace.jpl.nasa.gov/>

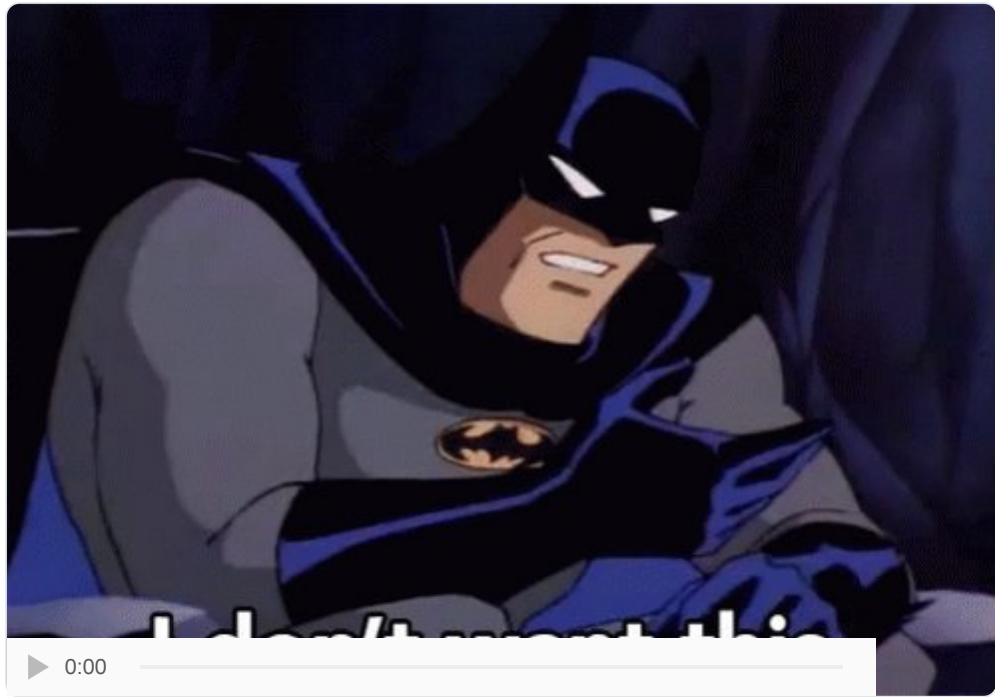
<https://deepspace.jpl.nasa.gov/>

 <b>MADRID</b> SEP 14 11:14 PM	VGR1	MMS1	CHDR	ORX	
					
	63	65	54	55	
 <b>GOLDSTONE</b> SEP 14 2:14 PM	CAS	SOHO	M01O MSL	CAS	
					
	14	15	24	25	26
 <b>CANBERRA</b> SEP 15 7:14 AM		M01O MEX MRO	DAWN	MVN	
					
	43	34	35	36	

102/ From now until it burns up (abt 12 hrs from now) [@CassiniSaturn](#) will continuously broadcast back to Earth [#GoodbyeCassini](#) [#GrandFinale](#)

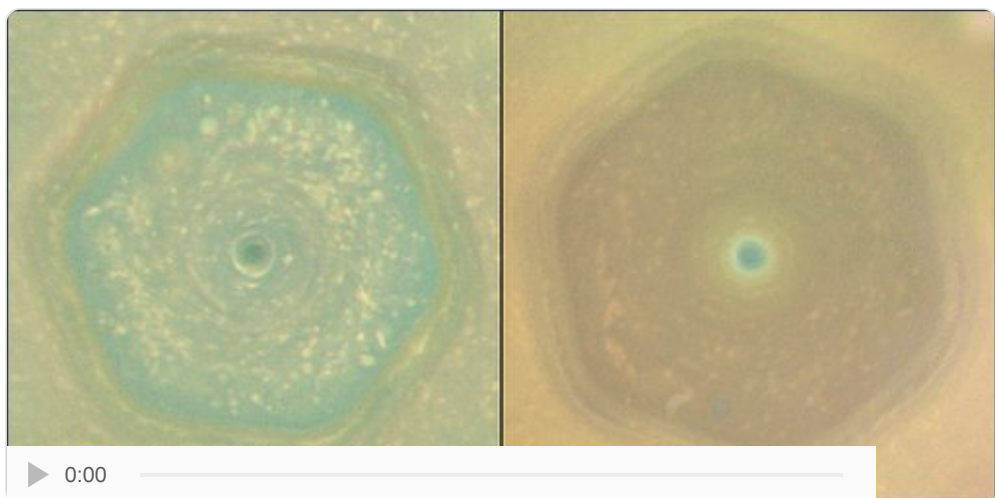


103/ people, It's starting to set in now... [@CassiniSaturn](#) is almost gone [#GoodbyeCassini](#) [#GrandFinale](#)

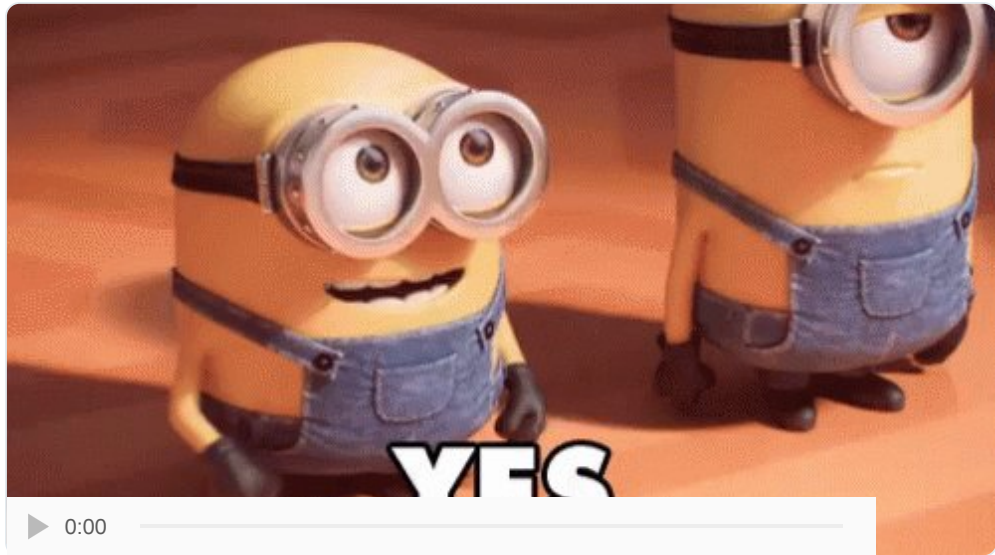


104/ So anyway, Summer solstice finally arrived for the Northern Hemisphere on [#Saturn](#) in May of this year! [#GrandFinale](#) [#GoodbyeCassini](#)

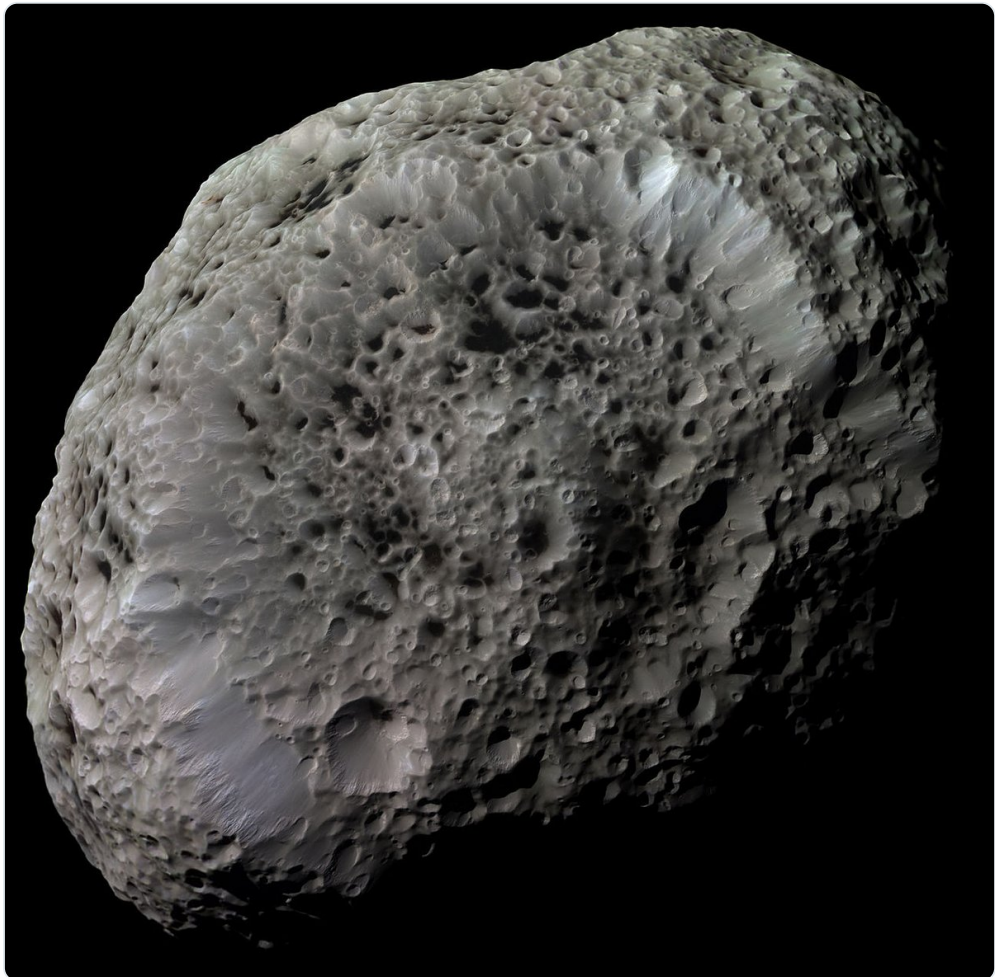
105/Now check this out, the north polar region COMPLETELY changed colour. Left: 2017, Right: 2013. More sunlight changes things![#GrandFinale](#)



106/ okay [#Saturn](#) fans, want to see a really weird moon? (of course you do) [#GrandFinale](#) [#GoodbyeCassini](#)

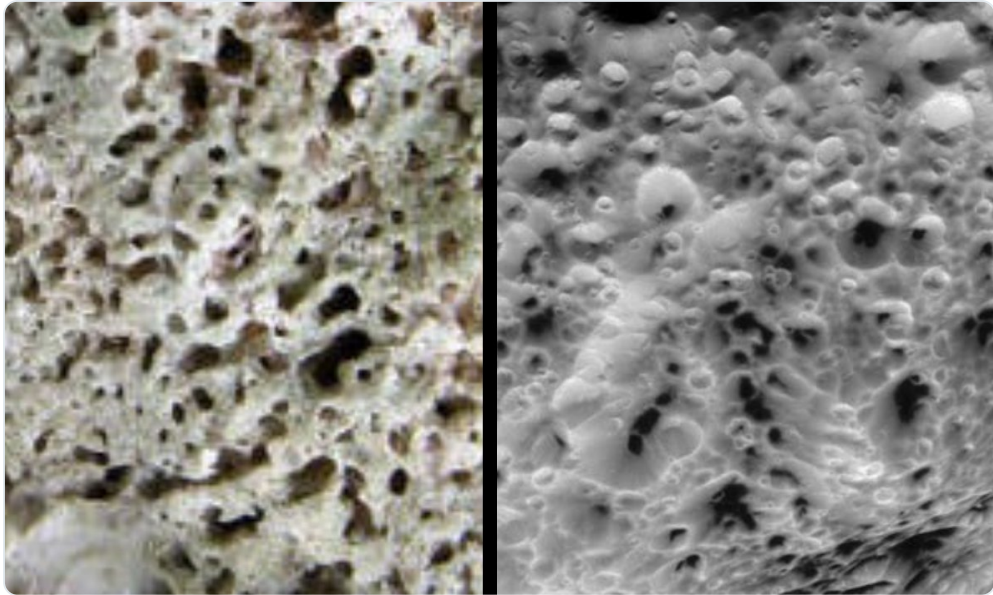


107/ twitter, meet Hyperion. One of [#Saturn](#)'s moons about 300 km in size .  
[@CassiniSaturn](#) did a couple flybys of it, most recent in 2015

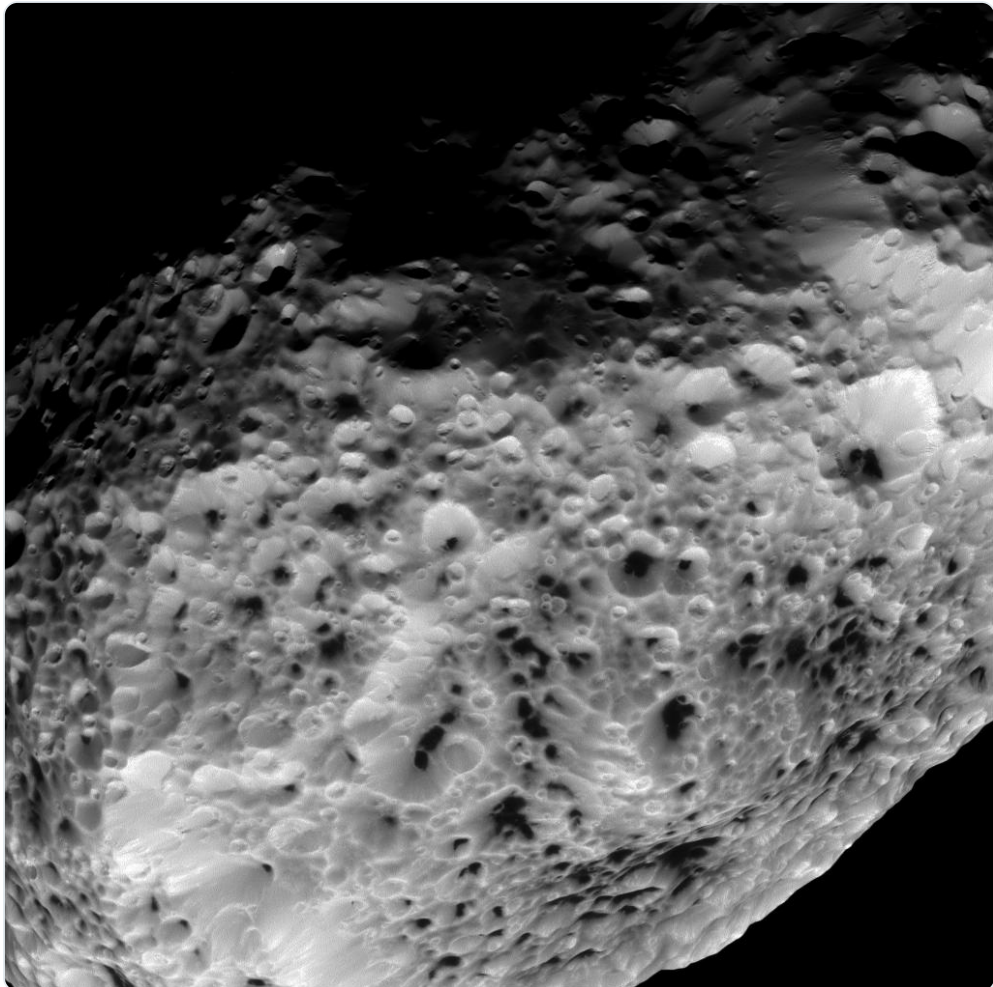


108/ [#Hyperion](#) looks more like a chunk of coral than a moon. Seriously, here it is next to a piece of coral, can you tell which is which?

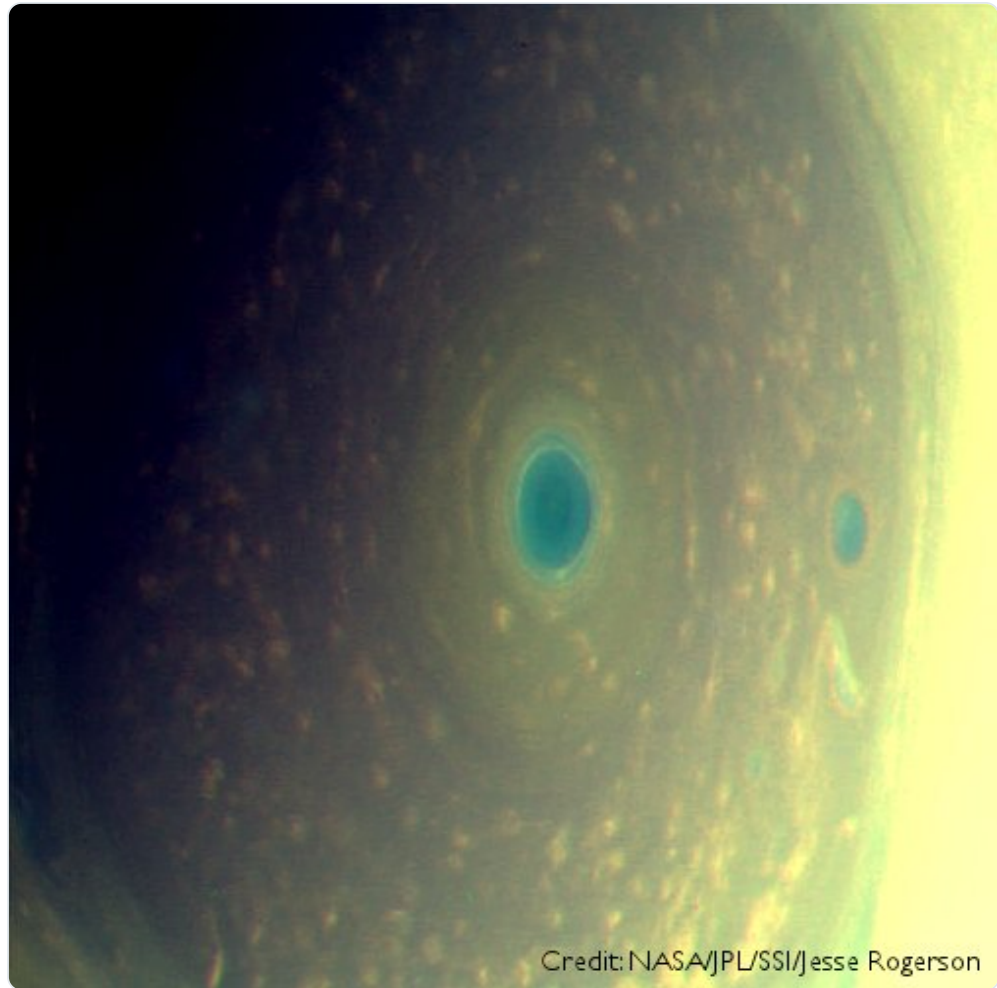




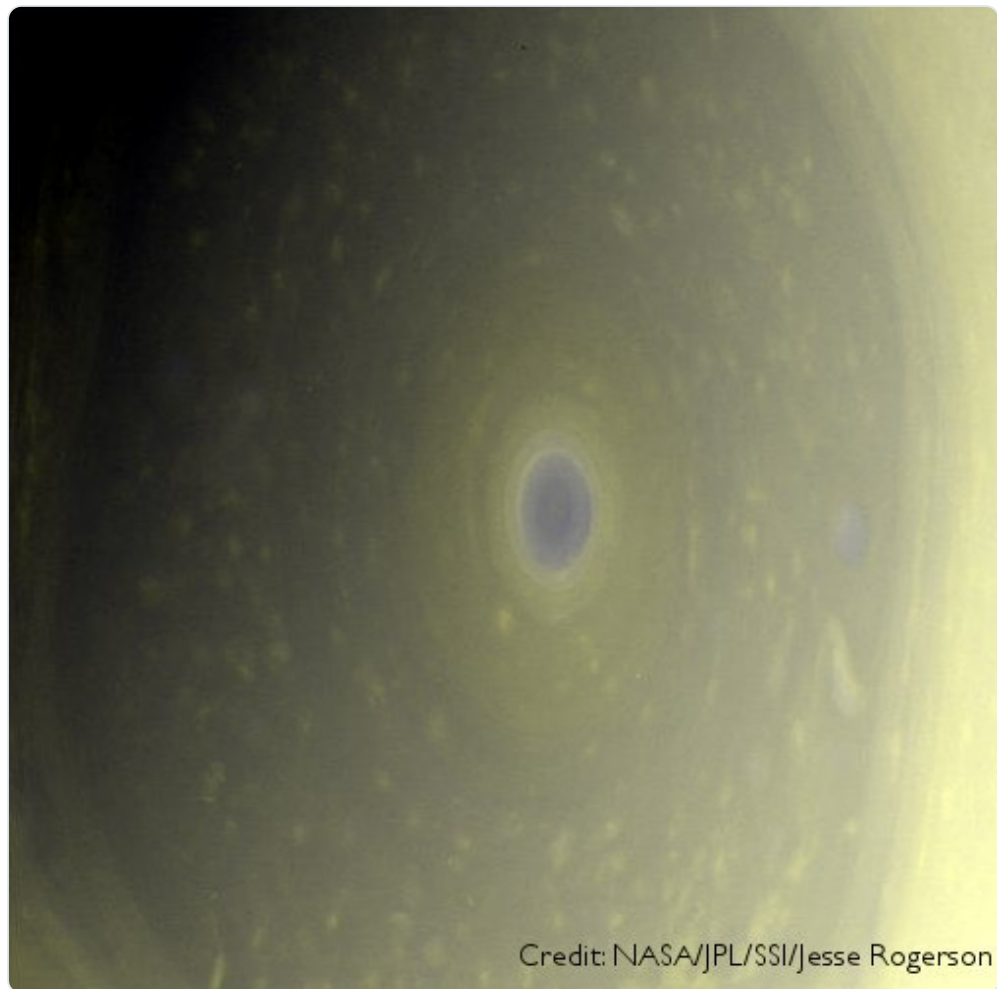
109/ Hyperion has a porosity of 40%. That means 40% of its total volume is ... empty. It's likely a conglomeration of smaller moonlets



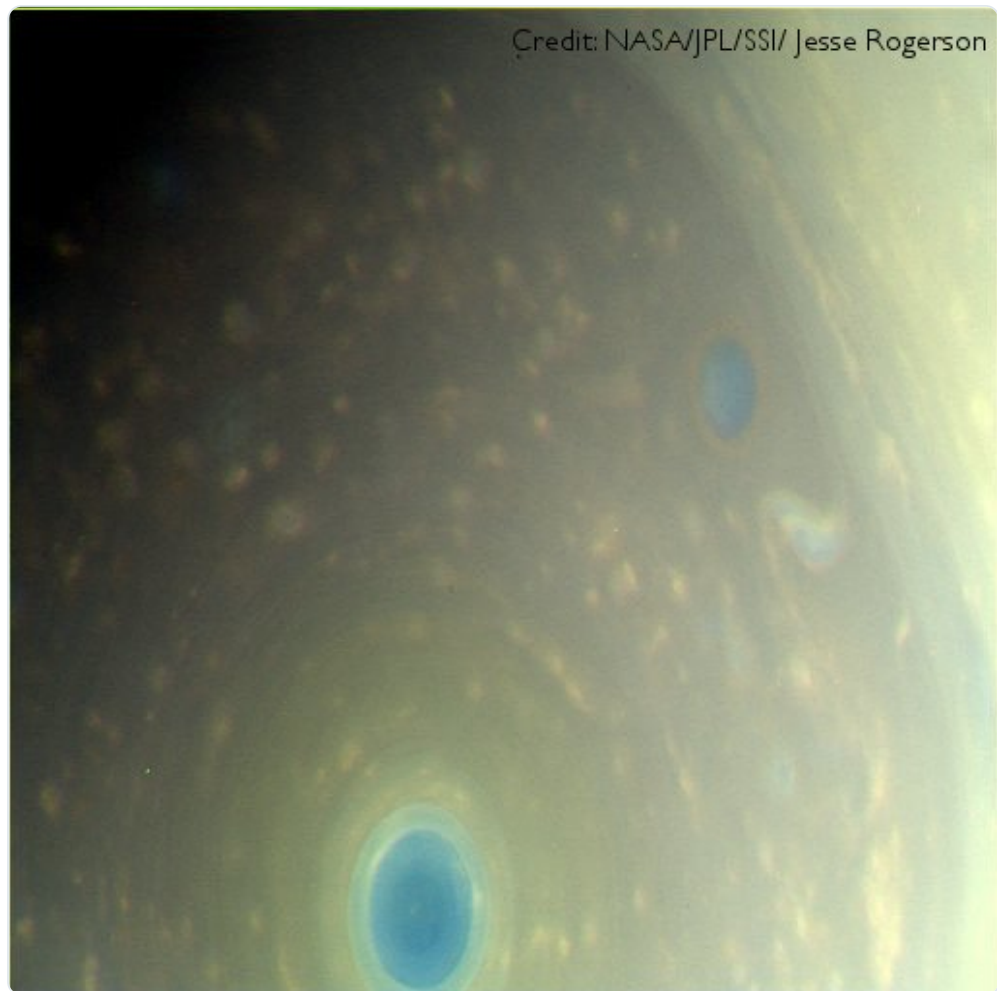
110/ Over the summer, [@CassiniSaturn](#) flew over the North/South pole of [#Saturn](#). Here's an RGB stack I did of the North Hexagon [#GrandFinale](#)



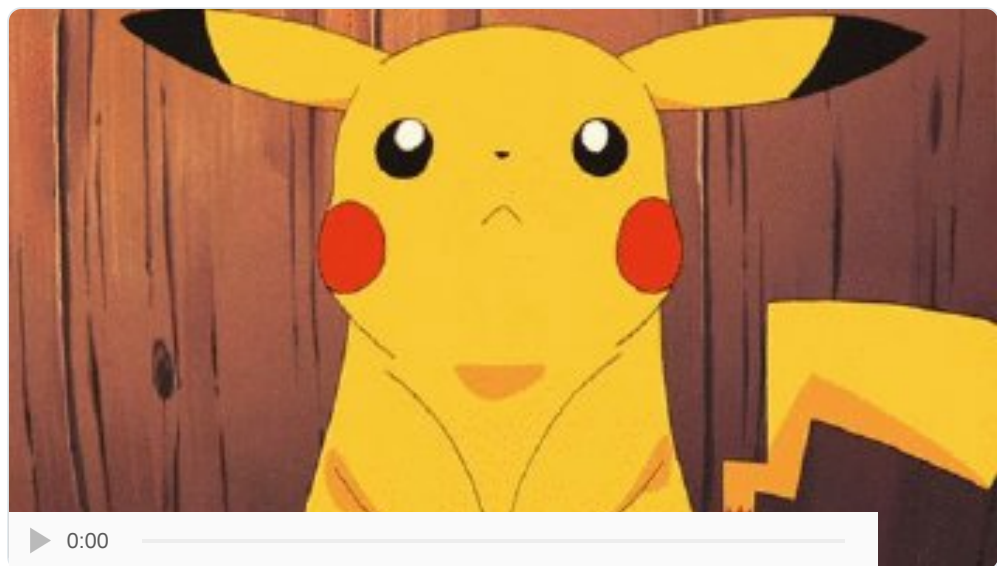
110/ Here's the same image stack, but closer to what the eye would see if you were there [#GoodbyeCassini](#) [#GrandFinale](#)



111/ This is another angle of the North Polar Hexagon. There's so much texture. So many clouds, storms.. [#GoodbyeCassini](#) [#GrandFinale](#)



112/ okay want to see another weird moon?

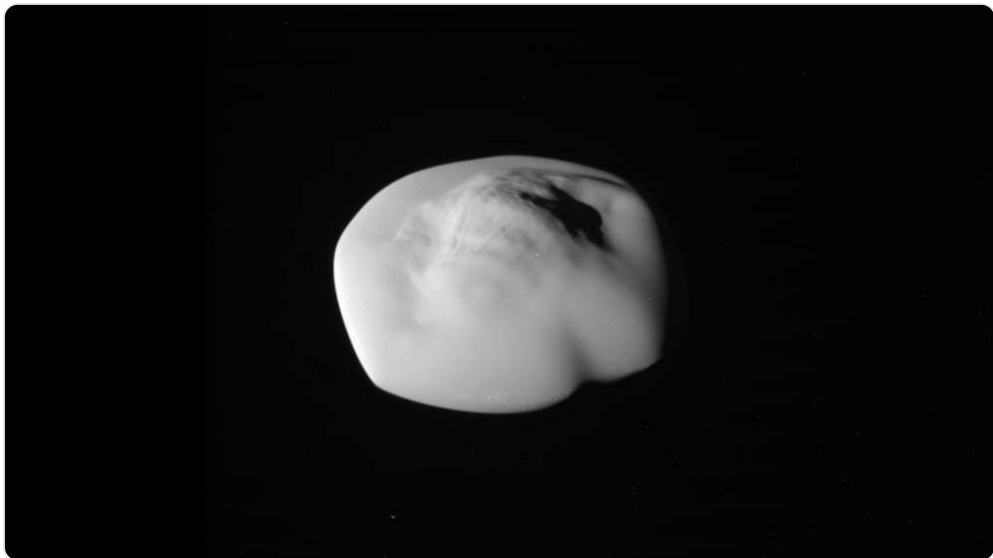


113/ For those following this thread since the beginning (clearly everyone), I said Iapetus' equatorial ridge feature will come back 'round



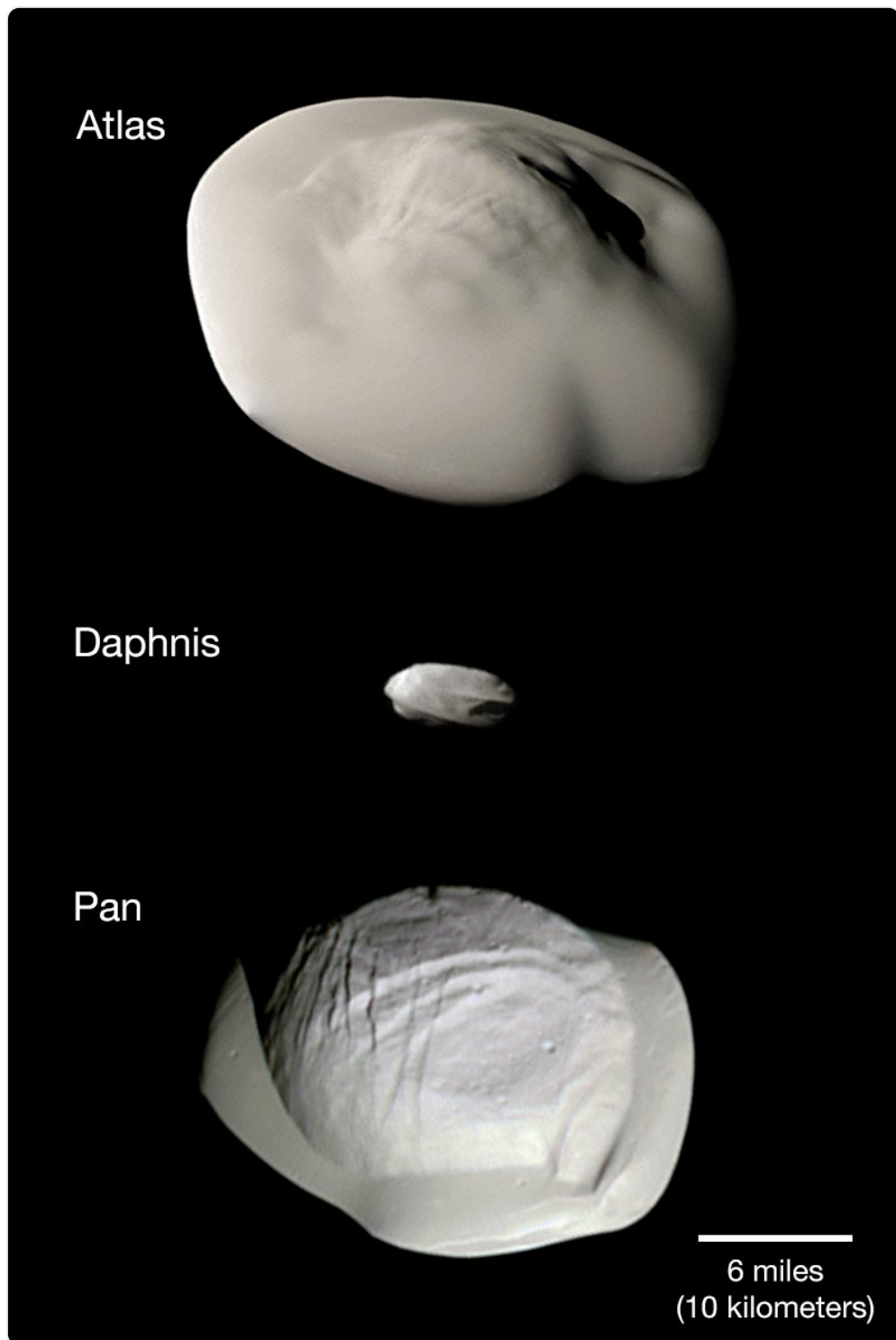


114/ Whelp.. BEHOLD the mother of all equatorial ridges. Atlas: the moon that is just one big equatorial ridge [#GrandFinale](#) [#GoodbyeCassini](#)



115/ Yes, that is what Atlas looks like. It's being affectionately called one of [#Saturn's](#) "Walnut Moons" (yes... plural)

116/ Meet the rest of the gang: Atlas (the big bro), Pan (the wild one), and Daphnis (the baby). They are the "Walnut Moons" of [#Saturn](#)



117/ yes... I gave the Walnut Moons Boy Band personalities.... What of it?

118/ Look at THIS image. It's insane. The differing colours of the hemispheres and paper-thin rings dissecting at the equator. [#GrandFinale](#)



119/ Okay now's the time to talk about why the [#GrandFinale](#). Why destroy the [@CassiniSaturn](#) spacecraft?

120/ First off, [@CassiniSaturn](#) has run out of fuel. Very soon it would be impossible to change the trajectory of the craft.

121/ Second, both [#Enceladus](#) and [#Titan](#) have VERY interesting chemistry happening on them. The former is a great place to go looking for LIFE

122/ Third, it's possible, however unlikely, that [@CassiniSaturn](#) could have Earth bacteria still aboard. Now let's add this up [#GrandFinale](#)

123/ You don't want your possibly contaminated spacecraft, that's dead in the water, to accidentally crash into Enceladus/Titan

124/ because it's possible, however unlikely, that you could contaminate/destroy any extraterrestrial life that exists there

125/ Thus, you have only one choice. The spacecraft must be destroyed.  
[#ElrondWouldBeProud](#) [#GoodbyeCassini](#) [#GrandFinale](#)



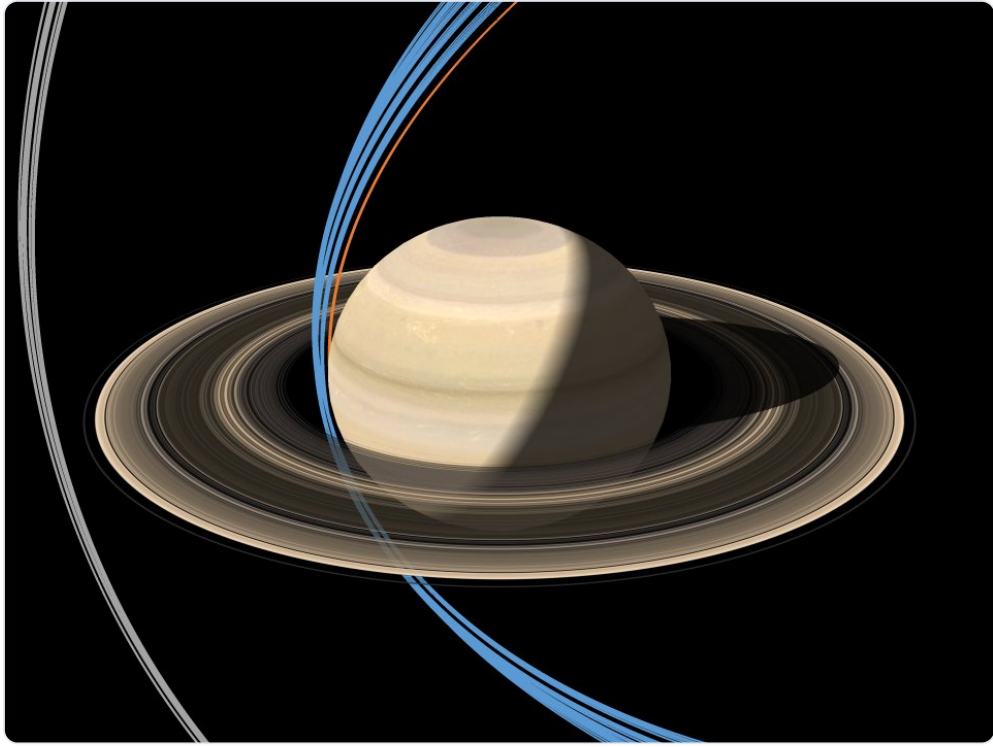
126/ The best way to destroy your spacecraft is by purposefully burning it up in the atmosphere of [#Saturn](#). À la Galileo and [#Jupiter](#)

127/ And if you're going to destroy your spacecraft anyway, why not take some risks?



128/ Hence, the [#GrandFinale](#): 22 orbits that dive between the Saturn and the rings. A gap that is only 8000 km wide, previously unexplored





129/ The [@CassiniSaturn](#) team didn't know what to expect, and on the first dive through the gap they found it to be completely empty!

130/ They measured the number particles that hit [@CassiniSaturn](#) as it passed through the gap. The result: very few!

**The Sound of Science: Comparison of Cassini Ri...**

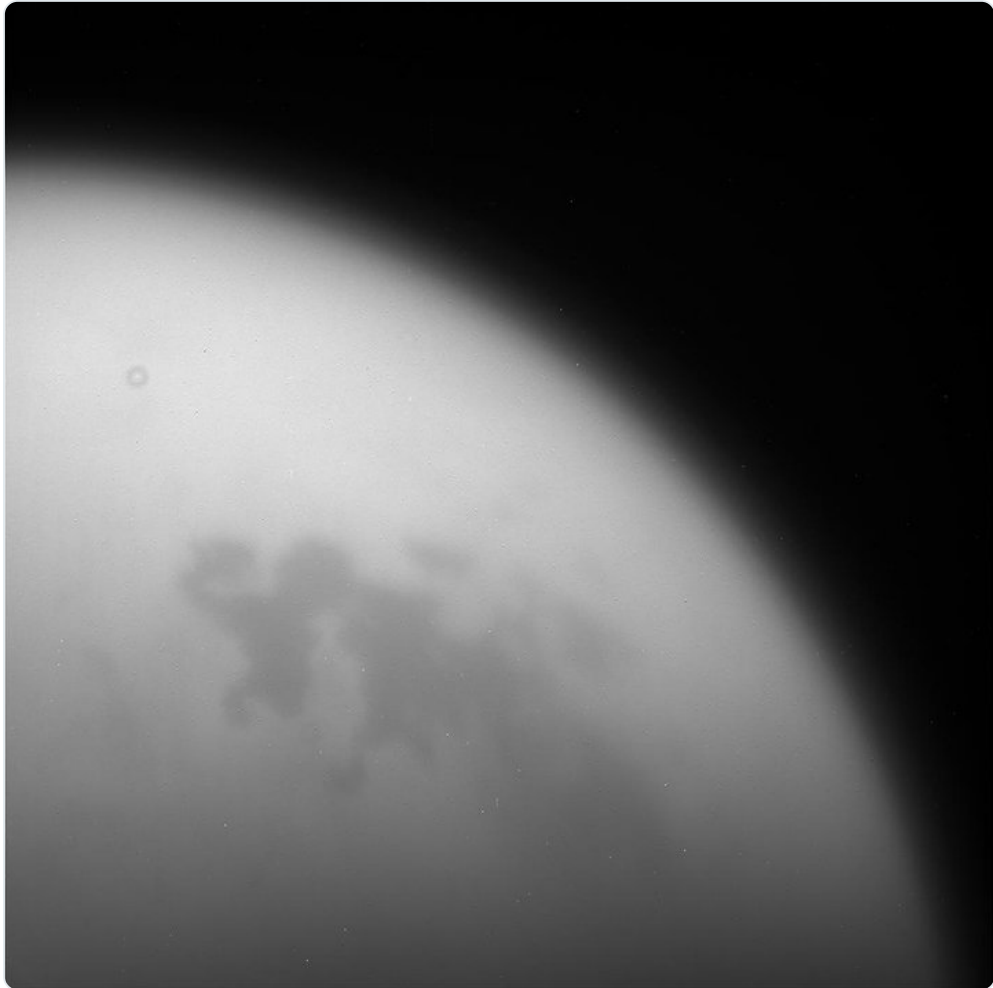
Comparison of data from NASA's Cassini's radio and plasma science instrument, which can detect ring particles striking the spacecraft as it crosses the plane of the rings, on Dec. 18, 2016 (at top) a...

<https://www.jpl.nasa.gov/spaceimages/details.php?id=pi...>

<https://www.jpl.nasa.gov/spaceimages/details.php?id=pi21446>

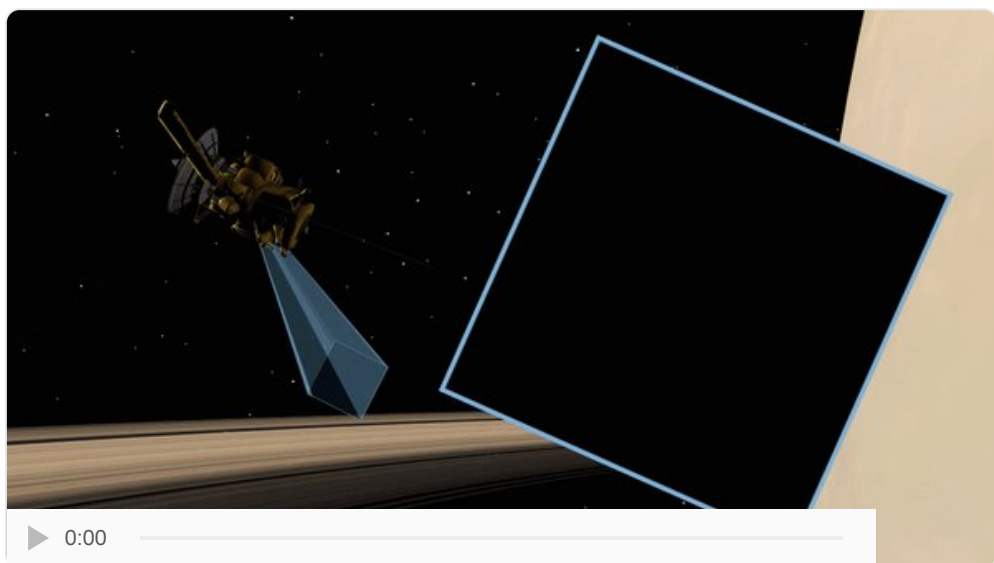
131/ And in the last few orbits, [@Cassini](#) has been so close to the clouds of [#Saturn](#), it has actually been able to SAMPLE it [#GrandFinale](#)

132/ A few days ago, [#Titan](#) gave [@CassiniSaturn](#) a "Goodbye Kiss," a final distant flyby. Here's an image from that flyby. [#GoodbyeTitan](#)

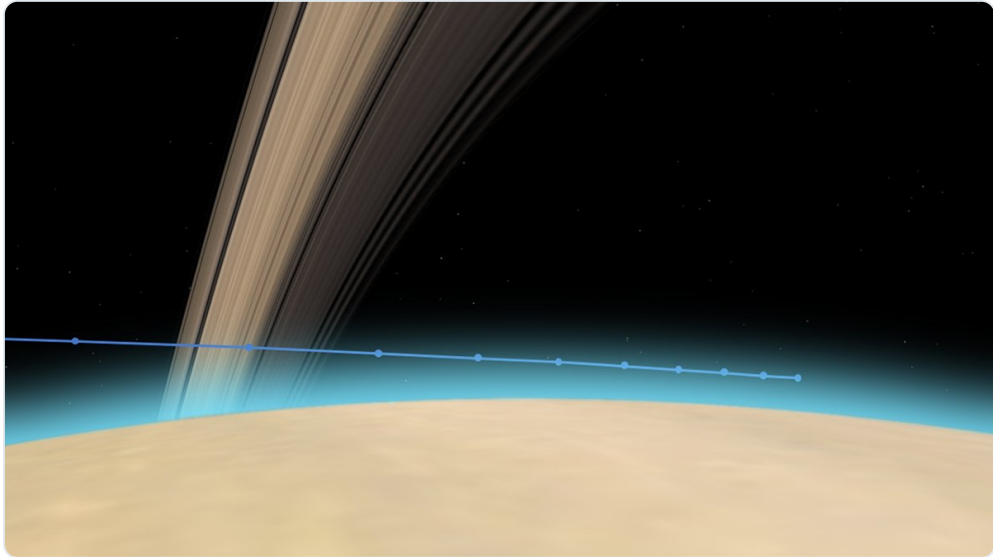


133/ Not only was it a good bye, but [@CassiniSaturn](#) also took a gravitational nudge that sent it on its current trajectory... to burn up

134/ Here's a great graphic from one of the dives through the gap, showing [@CassiniSaturn](#)'s POV as well as a cool video [#GrandFinale](#)

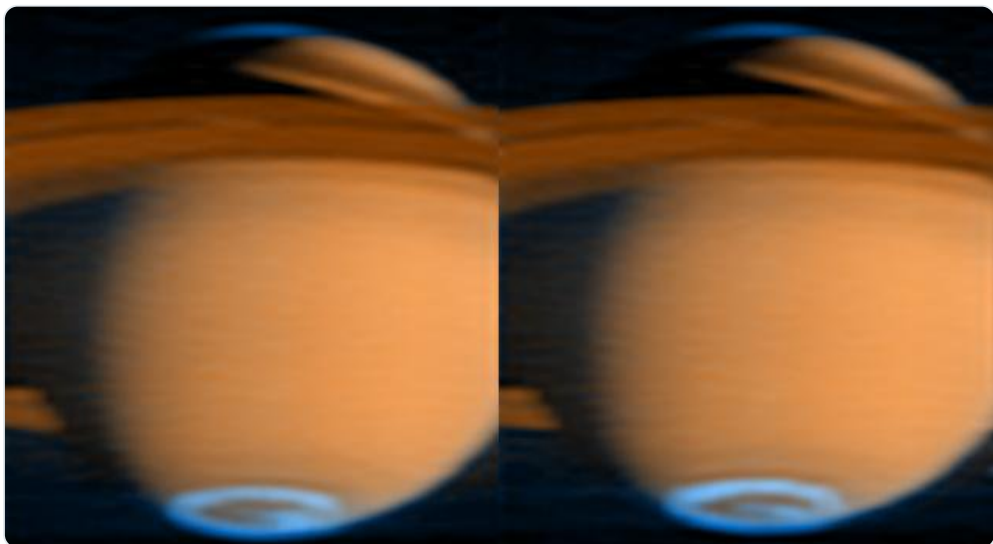


135/ in 8 hrs, [@CassiniSaturn](#) will burn up in the atmosphere over [#Saturn](#). One of the most impressive and productive spacecrafts ever built

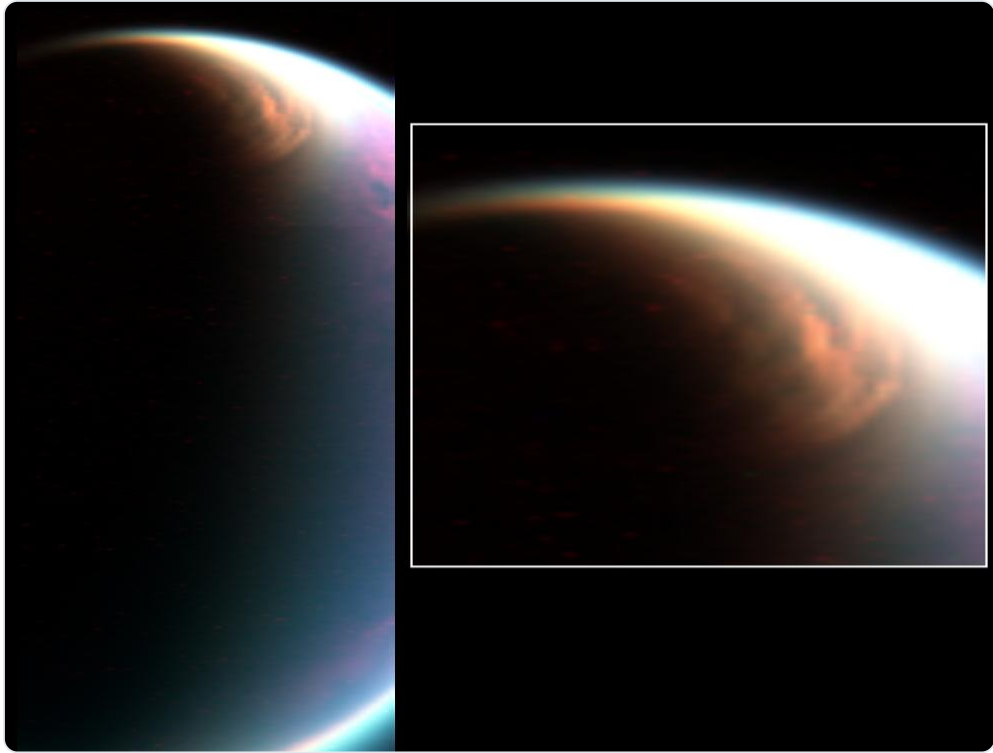


136/ I wish I was at [@NASAJPL](#) with [@AstroPartiGirl](#) and the other cool [#NASASocial](#) peeps following [@CassiniSaturn](#)'s plunge [#GoodbyeCassini](#)

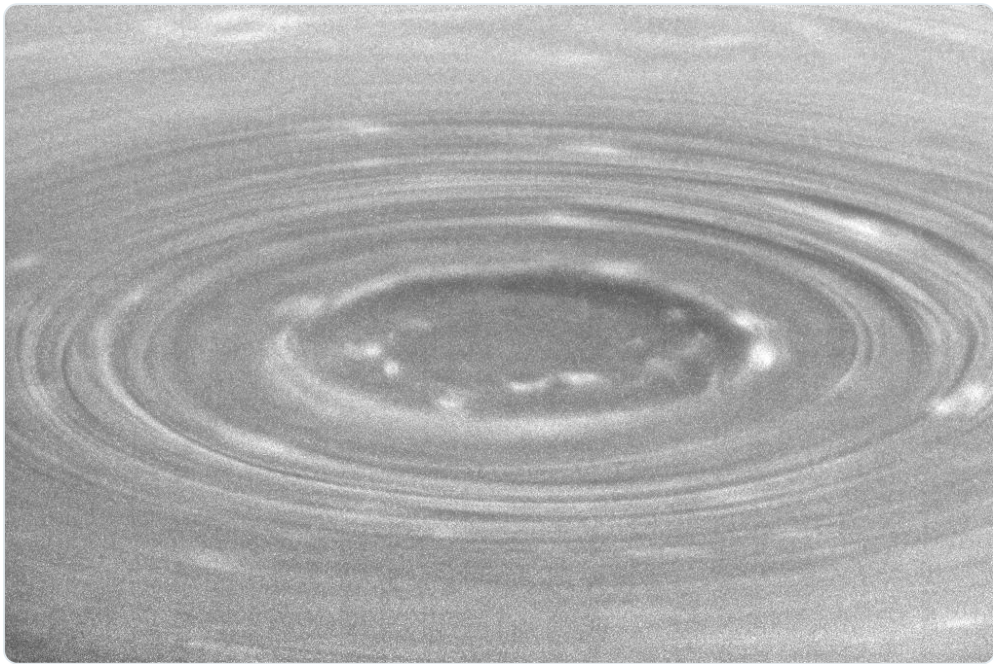
137/ oh I forgot about [#Saturn](#)'s Aurora! These images were taken on June 21, 2005. New shots of the Southern Lights! [#GrandFinale](#)



138/ during a 2006 flyby of [#Titan](#), [@CassiniSaturn](#) found a massive cloud at the North Pole of the Moon [#GrandFinale](#) [#GoodbyeCassini](#)

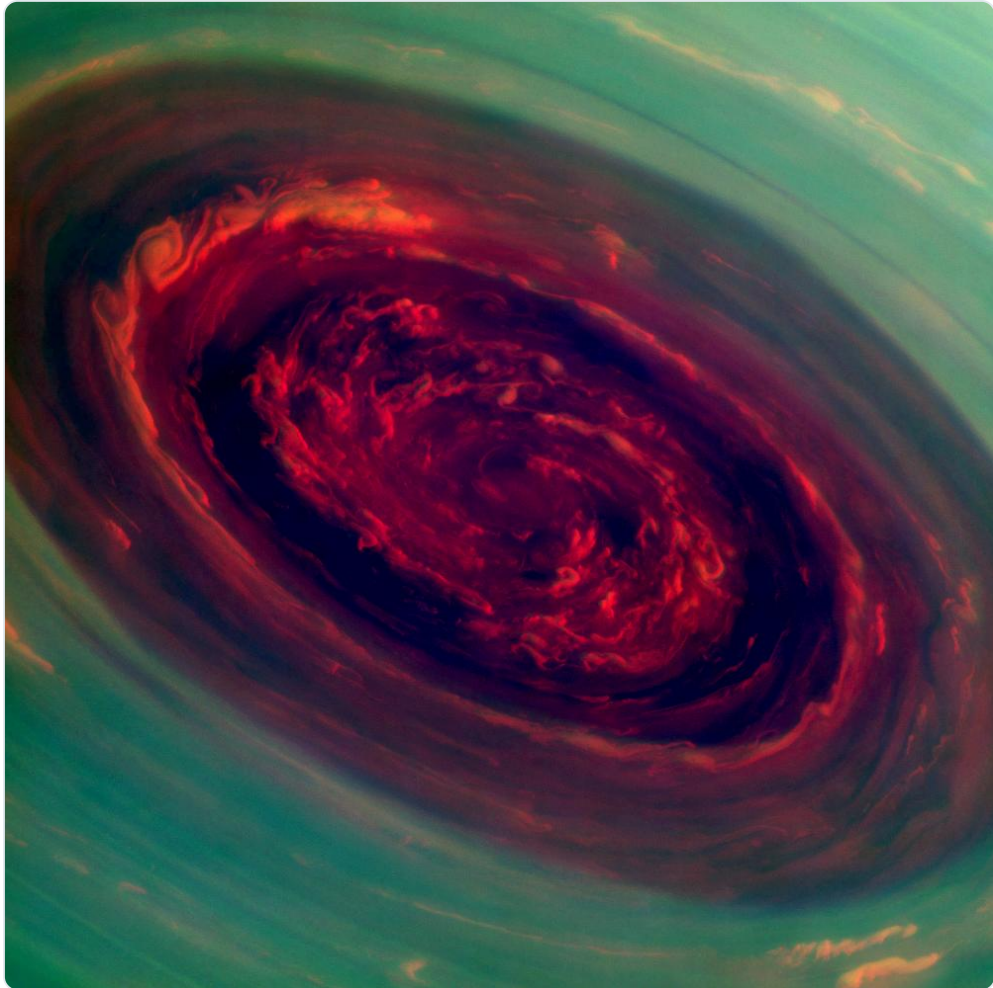


139/ The south polar vortex of [#Saturn](#), imaged by [@CassiniSaturn](#) in 2008

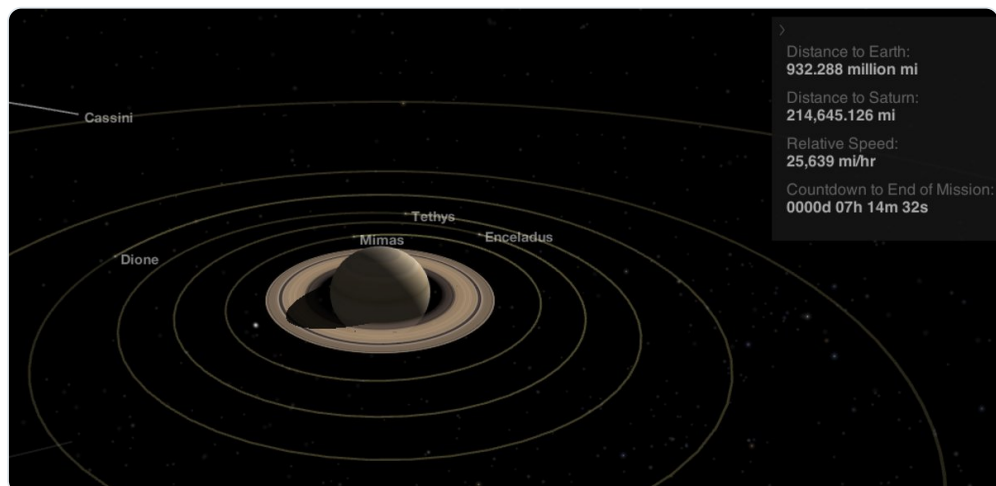


140/ this one's known as 'The Rose,' a beautiful false colour image of the north polar vortex. It has insane detail... crazy [#GoodbyeCassini](#)



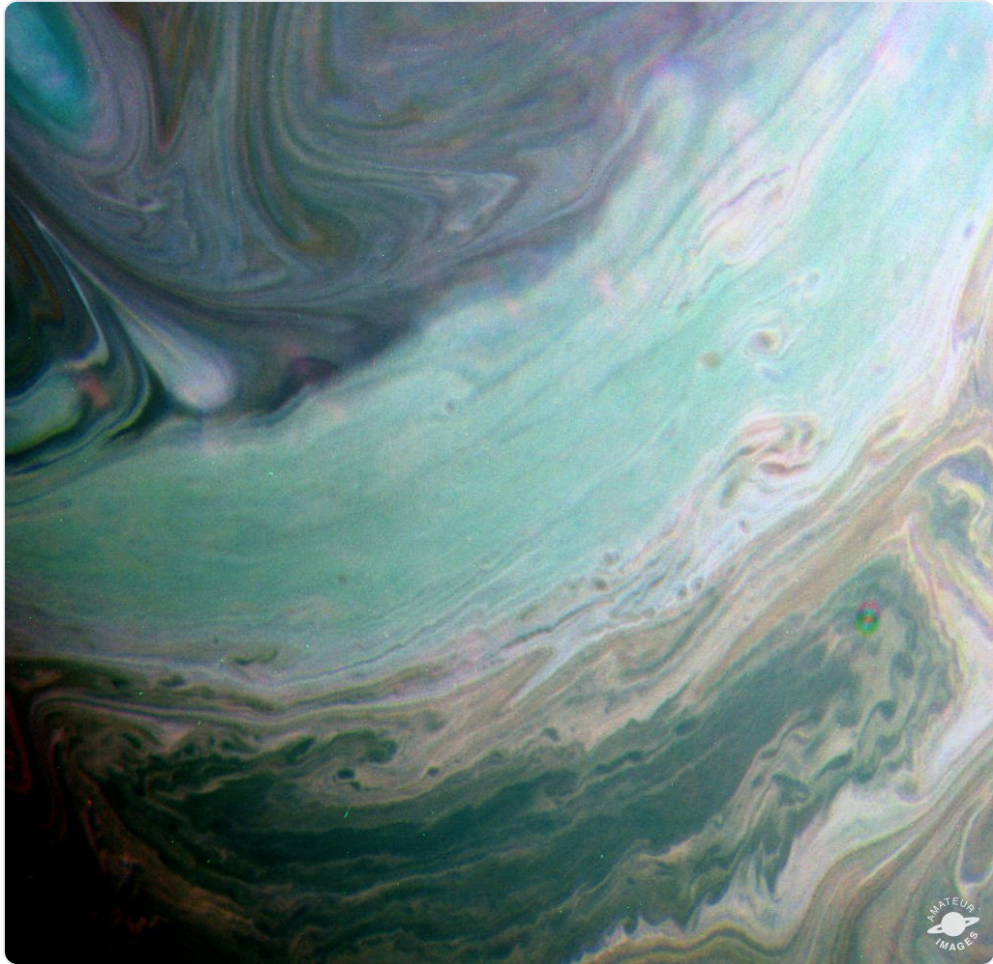


141/ almost there. 7hrs to go. About 350,000km away from burning up. That's the distance from the Earth to the Moon. [#GoodbyeCassini](#)



142/ I've run out of stories about [@CassiniSaturn](#) that I know... just posting images and counting down the minutes [#GoodbyeCassini](#)

143/ Holy crap check out [#Saturn's](#) clouds in this. Made frm Infrared images, and false coloured. Looks like a watercolour. cred: [@kevinmgill](#)



144/A VIDEO of Aurora on [#Saturn](#). I didn't even know this existed!  
[@CassiniSaturn](#) took 472 images during an 81-hour period in 2008 for it



145/ Good morning all, I wake to a very sombre tone on the twitterverse. In T-1hr,  
[@CassiniSaturn](#) will burn up over the skies of [#Saturn](#)

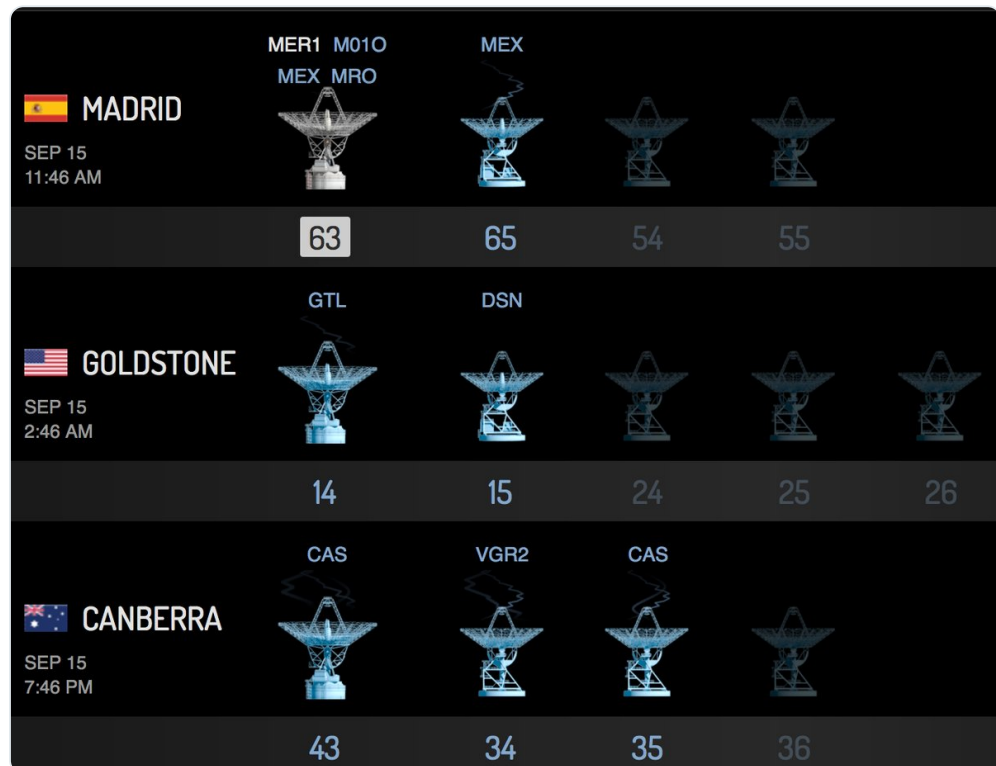
146/ Of course we won't know for another 90min or so due to light travel time.

#GoodbyeCassini #GrandFinale

147/ @CassiniSaturn launched in 1997. I turned 12 the day after it left Earth. For me, it has always been part of the solar system #GrandFinale

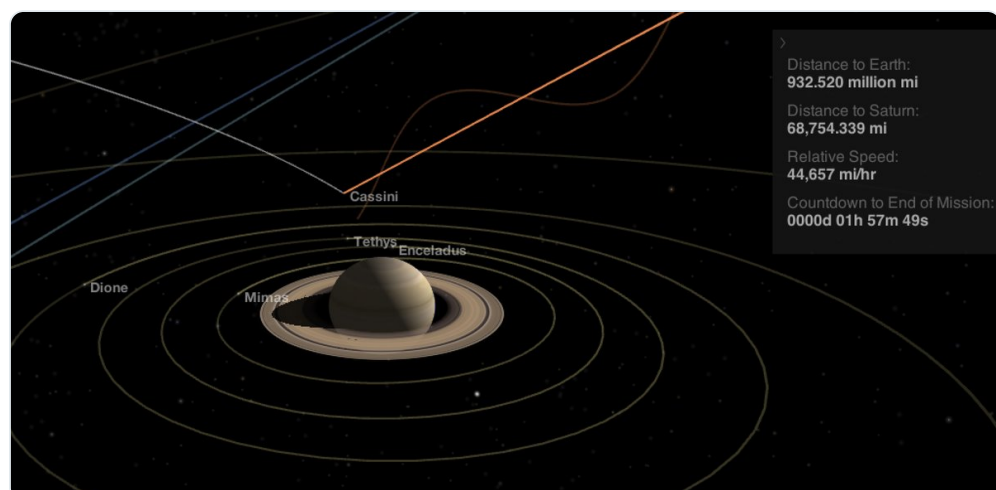
150/ Who stayed up all night at the #NASASocial down at JPL??  
#GoodbyeCassini #GrandFinale

151/ Overnight, the DSN dishes in Canberra were given the @CassiniSaturn feed. Downloading constantly until the craft is gone #GrandFinale



152/ Canberra is also listening to @NASAVoyager 2 at the moment, as you can see in the previous image. Two Titans of solar system exploration

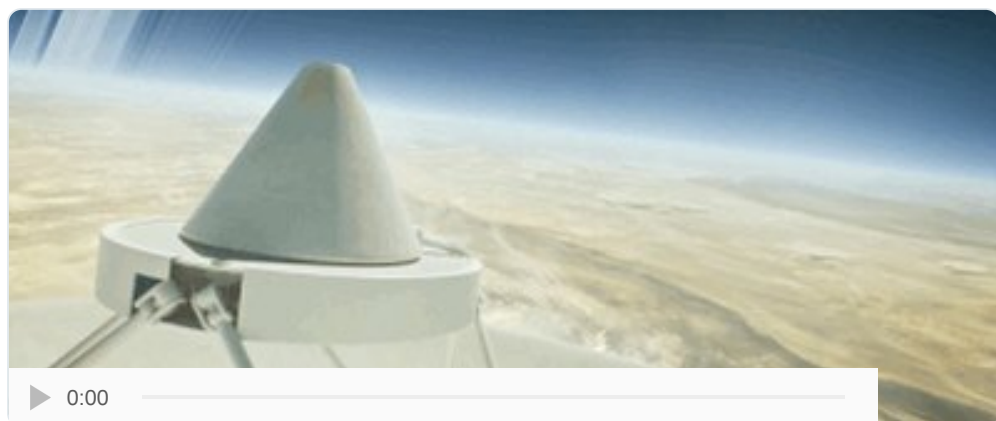
153/ Getting close! only 100,000 km away from #Saturn. and @CassiniSaturn is continuously broadcasting data until it burns up #GrandFinale



154/ it's 6:30am EDT, the projected time for [#Saturn](#) atmospheric entry. This is [@CassiniSaturn](#) right now [#GoodbyeCassini](#) [#GrandFinale](#)



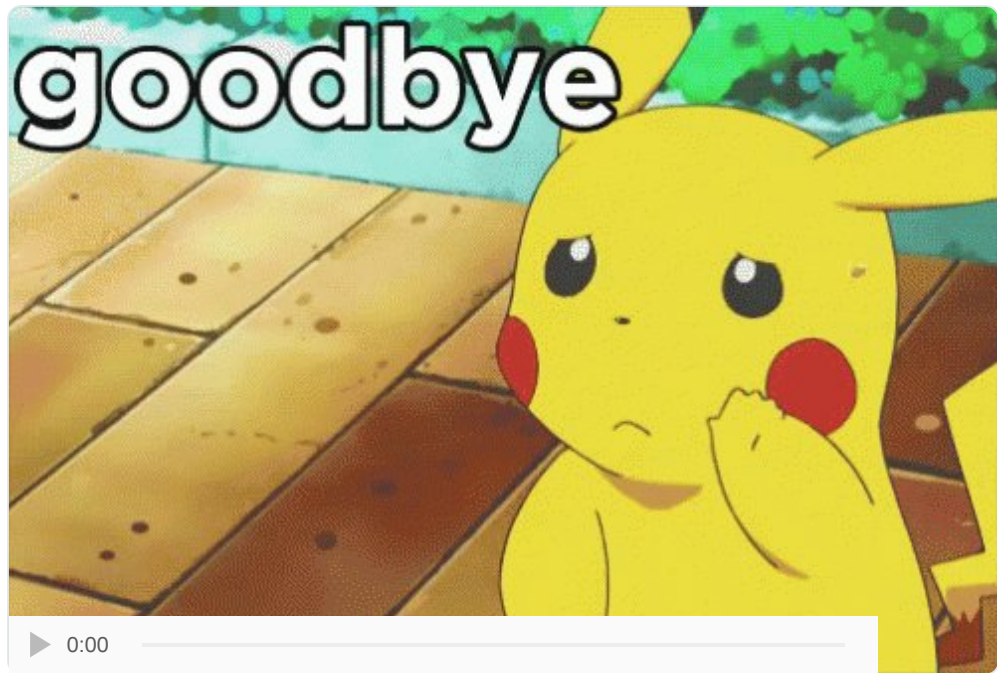
155/Right now in a sky 1.5 billion kilometres away, a small emissary from Earth is falling apart. Ending a 20 year long mission [#GrandFinale](#)



156/Due to the distance, the last transmission from Cassini won't be downloaded by the Deep Space Network until 7:55am EDT [#GrandFinale](#)

157/ A little more time, for those of us not ready to say [#GoodbyeCassini](#). What? I'm not crying ... YOU'RE crying... [#GrandFinale](#)



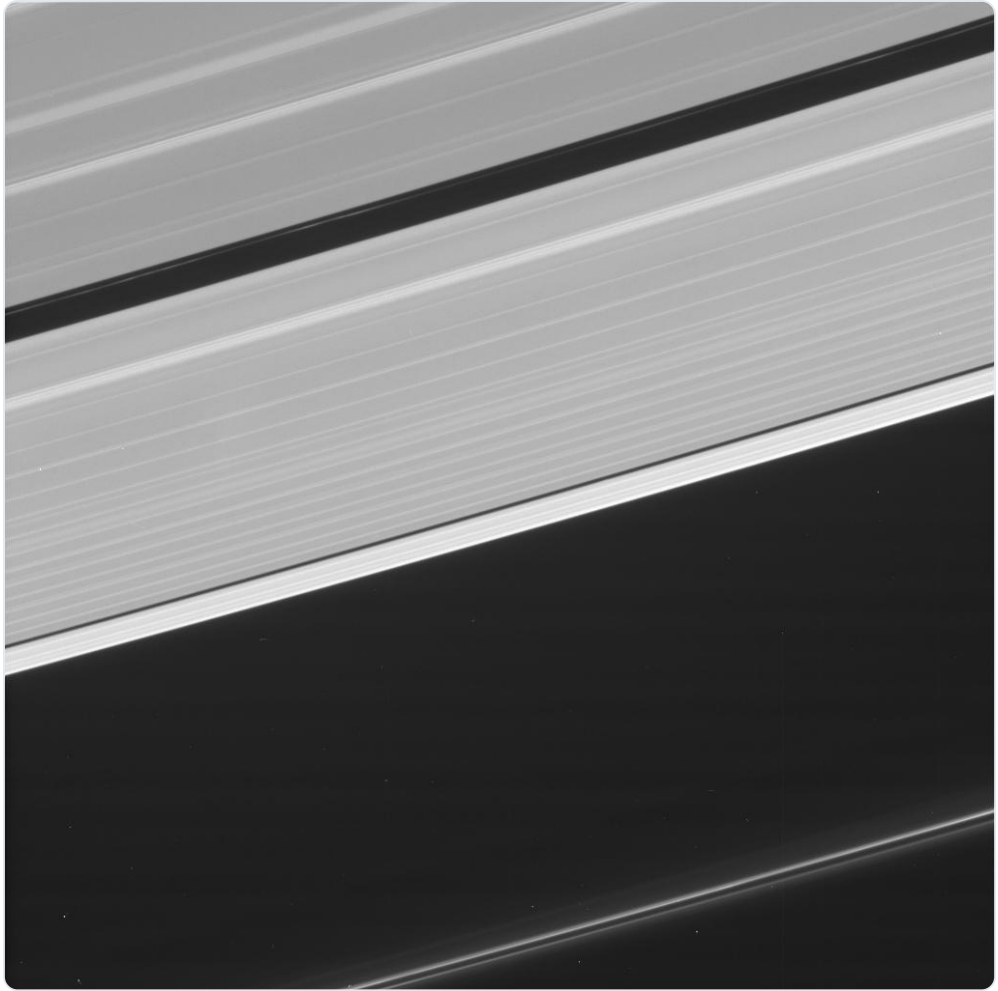


158/ Cassini, a piece of humanity, has become a piece of [#Saturn](#). We'll be forever grateful, and forever proud of what it's accomplished

159/ Just finished chatting with [@HallieCBC](#) at [@CBCRadioCanada](#) about Cassini's final moments and legacy [#GrandFinale](#)



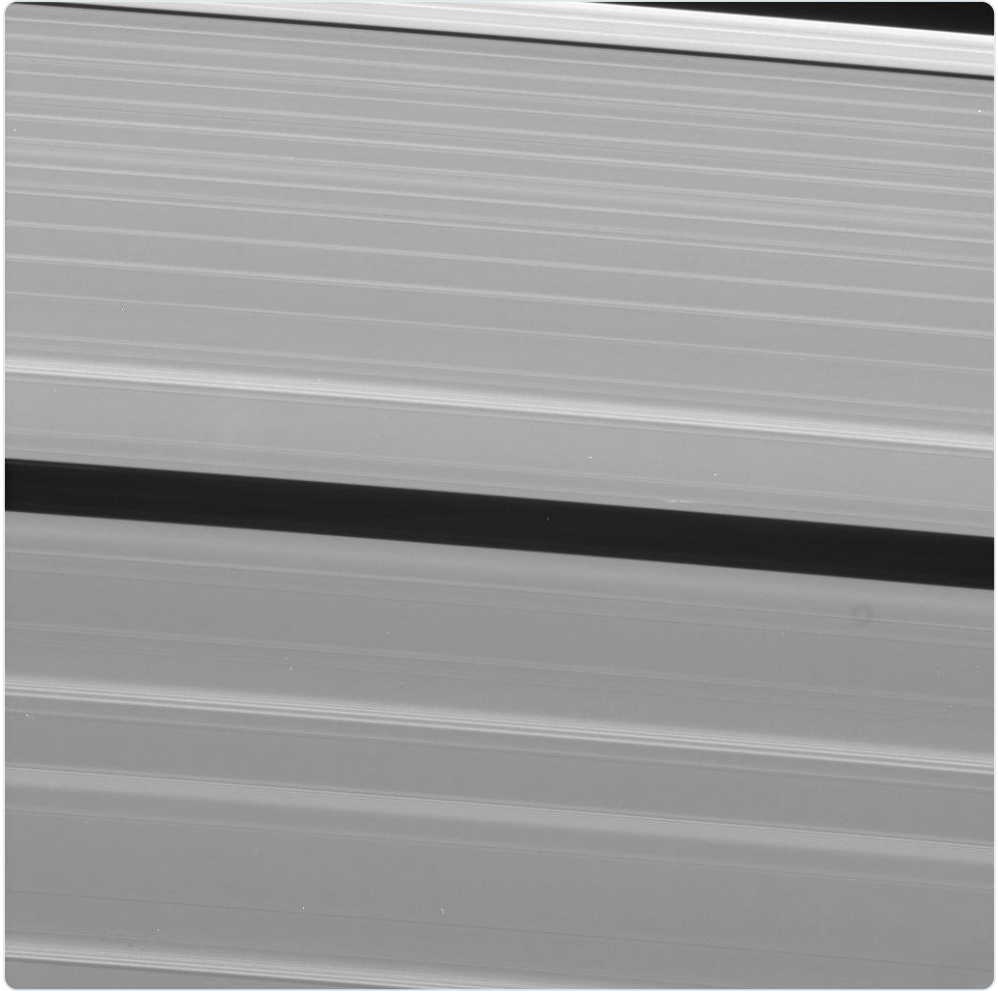
160/one of the last images sent back from Cassini last night. Searching for propeller features, can you see any? [#GoodbyeCassini](#) [#GrandFinale](#)



161/ Taken last night in its final image dump, a beautiful image of the F ring and Pandora or Prometheus, can't tell which. [#GoodbyeCassini](#)



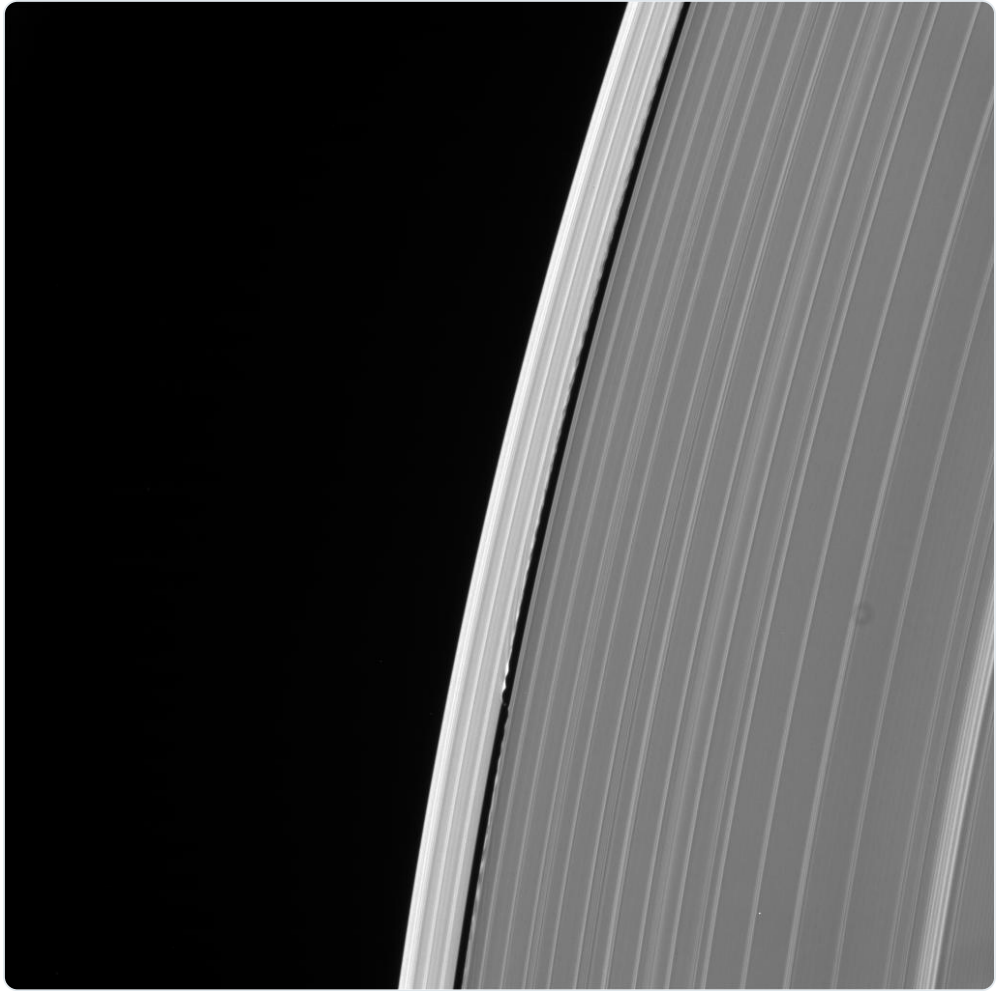
162/ OH! There's one, a propeller feature! See it? Image taken Sept 14, 2017 6:17pm, Received Sep. 15, 2017 6:17am [#GrandFinale](#)



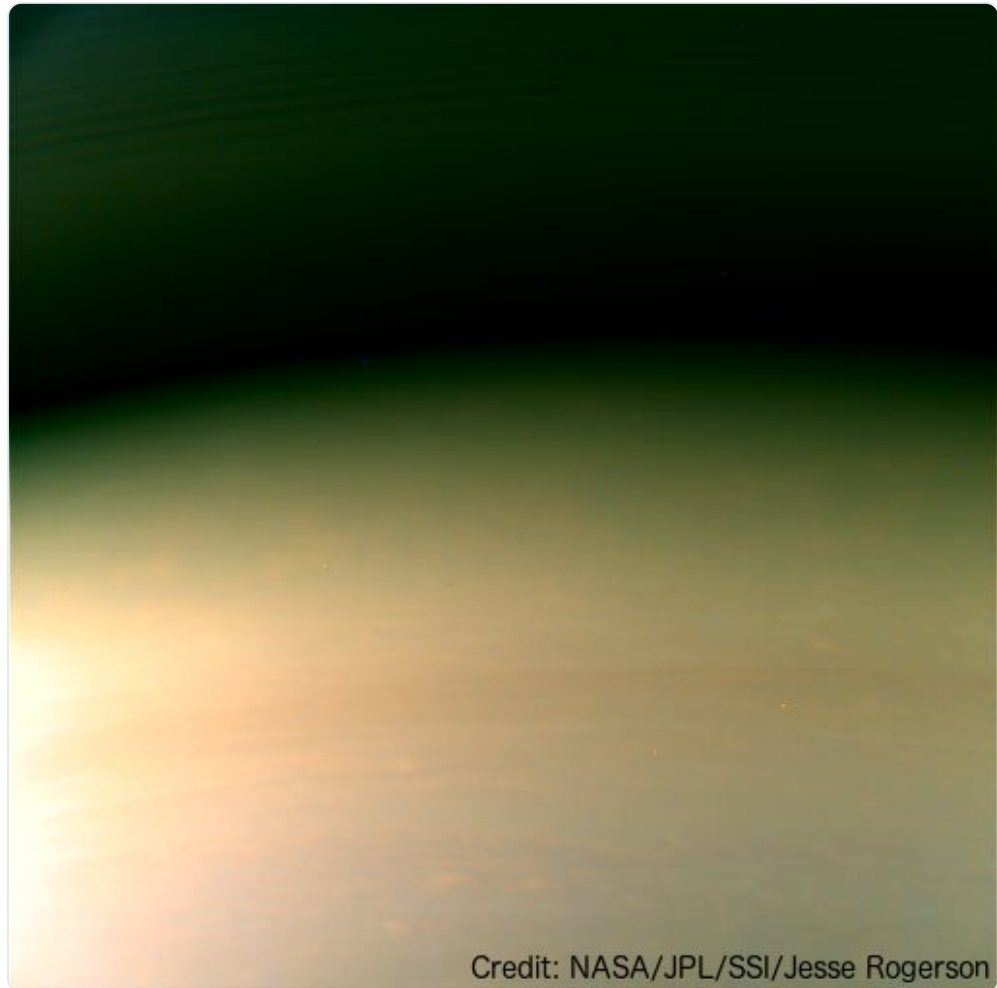
163/ "Cassini has changed the paradigm of where we might look for life, that will be one of her legacies" -Linda Spilkner [#GrandFinale](#)

164/ A final distant image of Daphnis, the moon that created the Keeler Gap. The moon disrupts the portions of the rings closest to it

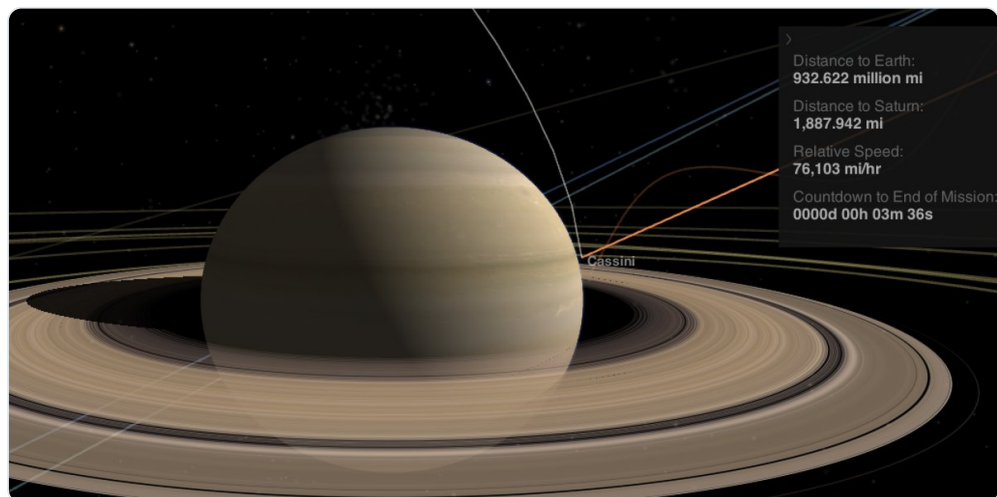




165/ Cassini took this image in the direction it was travelling about 12 hrs before it burned up. It's looking at it's final resting place



166/ We're only a few minutes away until the Loss of Signal for [@CassiniSaturn](#)  
[#NASASocial](#) [#GoodbyeCassini](#) [#GrandFinale](#)



167/ "The entire spacecraft runs on 600W" "about half a hair dryer"'s worth of power. That's crazy! [#GrandFinale](#)

168/ "We have loss of signal" -[@CassiniSaturn](#) team. right on time 7:55  
[#GoodbyeCassini](#) [#GrandFinale](#)

169/ "I hope you're all deeply proud of this amazing accomplishment" -Earl Maize, the Cassini Project Manager to his team [#GrandFinale](#)



170/Well I guess Ill leave it there. I've had the funnest week reliving the mission via this string of tweets [#GrandFinale](#)

Thread COMPLETED