

Pan

Student: Dragne Vlad-Cristian

School: Scoala nr. 79, Bucuresti, Romania

Coordinating Teacher: Ioana Ciobanu

I think that the best choice for Cassini to visit is “ Target 1: Pan “. There are many things we can learn from such a small moon.

The first question would be “ How can a moon not be spheric? “. So this moon, Pan, will help understand better than astrophysics, because of its defiant nature. It is weird because it should be spheric, since it orbits another planet.

Another important question would be “ How does this shepherd-moon maintain the Encke gap and keep it free of ring particles? “. The answer is simple and short: “ Gravity “. Pan will make a good example of the force of gravity properties.

The final question is “ How did Pan get in the A ring, in the Encke gap and then started orbiting Saturn? “. I think there are two possibilities. The first is that, maybe, Pan was there before the rings were completely formed. It already orbited Saturn like our moon orbited Earth before humans existed. The other possibility is that Pan traveled through all the other rings, without disturbing them too much. It arrived in the A ring and started orbiting Saturn, attracted by its gravity. Then Pan, orbiting Saturn, created the Encke gap. I suppose that the second possibility is less plausible but, I think, not impossible. It is up to Cassini to discover the answers.

I noticed that the first and the last question have a common scenario. This scenario is that Pan, attracted by the gravitational force of Saturn, actually traveled through the rings and collided with some asteroids and got its walnut shape. But, as I stated earlier, it is up to the Cassini spacecraft and the Cassini team to make the glorious discovery.

In my opinion, Pan will help people (especially students, teachers, scientists and astrophysicists) understand lots of things better. Things like gravity, astrophysics and many others.

I don't say that the other two targets were less interesting. There are many other things we can learn about Saturn and its rings or the F ring, but Tina, the operations engineer, had better arguments in my opinion. So I am happy because the Cassini spacecraft will visit all three targets. I also consider Saturn, the sixth planet from the Sun, the most beautiful of all.

In conclusion, Pan is the best target because it can serve a purpose to the schools and other institutes in the world. Well done for choosing to visit all three targets and good luck on the mission!