



Note: This file can not replace watching the video lecture. Because the video lecture contains more explanation through graphical elaboration.

Certified Junior Astronaut Training Course



Satellite lifetime and factors influencing it (Part 3)





This lecture will answer the following inquiry:



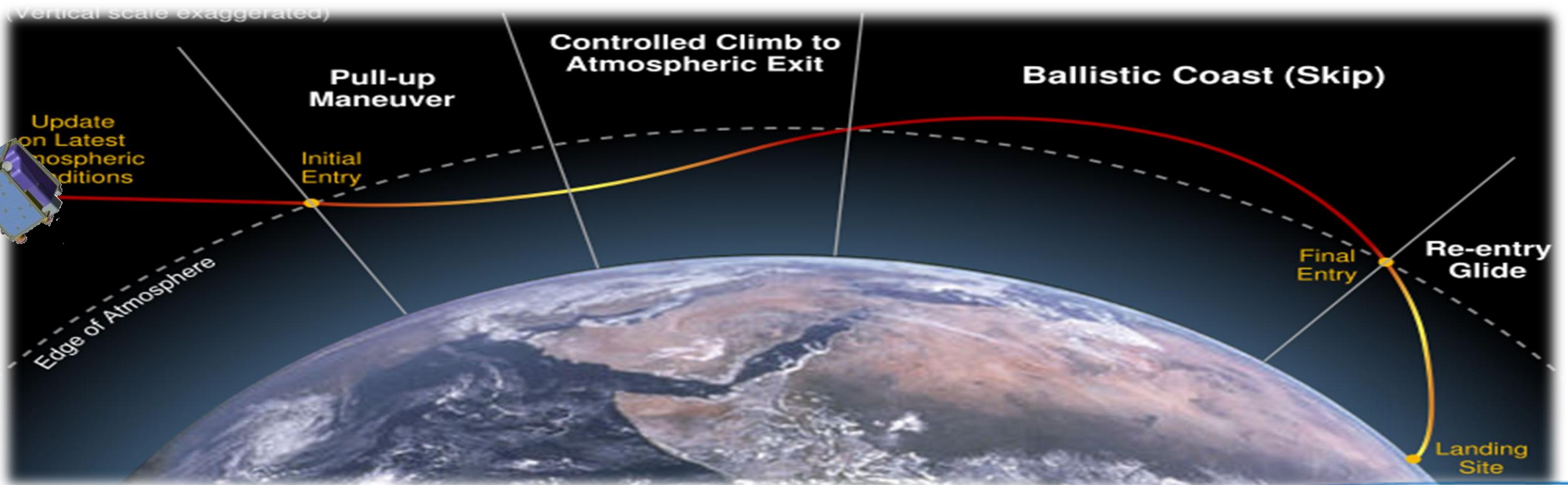
How can a Satellite be disposed after terminating its lifetime?





How can a Satellite be disposed after terminating its lifetime?

- A new method was innovated to overcome the problem of space debris and its resulting scattered debris in space. The satellite would be pushed into an orbit with a specified shape that avoids its sharp collision with the atmosphere. Then the satellite will fall undestroyed in a body of water (such as sea or ocean). This method is called "Controlled Re-entry".



Source: Skip Reentry en.wikipedia.org



Cont.. How can a Satellite be disposed after terminating its lifetime?



In case one of these satellites contains critical technology that shouldn't be transferred to others, the satellite will be picked up from its final destination in the sea. This video shows the pickup process of the European uninhabited spacecraft ARV that was responsible for supplying the International Space Station with its requirements (air, water, fuel and research laboratory requirements).



Source: ESA, Mission/scenario of the Advanced Reentry Vehicle

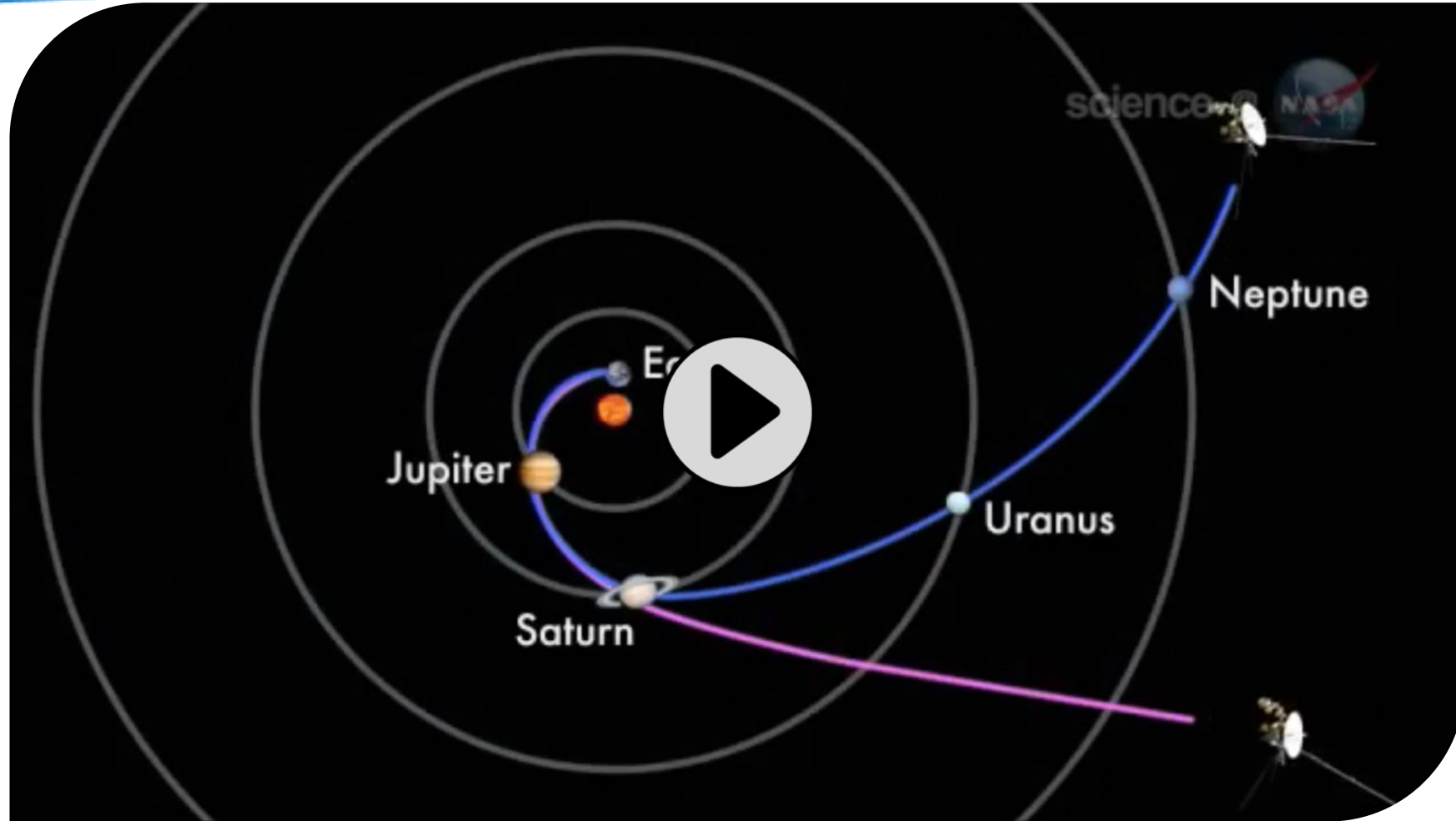




Cont.. How can a Satellite be disposed after terminating its lifetime?



Regarding far Orbits, satellites are disposed by thrusting them to an orbit far from the atmosphere and in the direction of the external space. Hence, the satellite continues to move away from earth without colliding with other satellites that rotate around earth.



Source: Science@NASA





Cont.. How can a Satellite be disposed after terminating its lifetime?



The process of Re-entry is also performed on inhabited spacecraft such as a space shuttle while re-entering the atmosphere for landing on earth.



Sources: Atlantis Re-entry and Landing by Kermit, NASA





Thanks for your undivided attention

