AE 470 – Assignment #4 – Spring 2025

STK Hohmann Transfer

Using Ansys STK, simulate the Hohmann transfer example from notebook "09_ae470_Hohmann_transfer_examples", Example 2 (Curtis, Ex 6.1, pg 290).

A spacecraft is in a 480km×800km earth orbit.
Find:

- The Δv required at perigee (point A) to place the spacecraft in a 480km×16,000km transfer ellipse.
- The Δv required at apogee of the transfer orbit (point B) to establish a circular orbit of 16,000km altitude.

Use Inclination= 28.5 degrees, argument of perigee=30 degrees, and right ascension of the ascending node=10 degrees.

Follow the process demonstrated in these videos:

1. https://www.youtube.com/watch?v=5woCXBCzGeo
2. https://www.youtube.com/watch?v=FTuwXitan-U
3. https://www.youtube.com/watch?v=vgztUrUlulA

Submit a screenshot of the complete simulation to Moodle. Include in the screenshot: 1)the 3D view and 2)the Satellite : Basic | Orbit properties window.

Please name your screenshot: lastname_ae470_assignment4.png.