**Problem 2d)**

A screen shot of a screen

Description automatically generated

Figure : Problem 2d

The figure above shows initial orbit (red line), the transfer arc (green line), and the final orbit (pink line). On the following page, there are two sets of tables. One contains all the transfer ellipse quantities at the departure and arrival points. In this table, the FPA from GMAT was converted to our conventions FPA by subtracting the GMAT FPA from 90 degrees. The TOF was calculated by using the elapsed time at departure and subtracting that from the elapsed time at arrival, then this value was converted into hours. The other table contains the deltaV calculation for both arrival and departure. This was done by taking the difference in the velocity vectors at the time step prior and after the maneuver, then the deltaV was the norm of this difference. The quantities in both tables align very closely with what was calculated in problems 2b and 2c.



Figure : Transfer Ellipse Properties



Figure : DeltaV Calculations