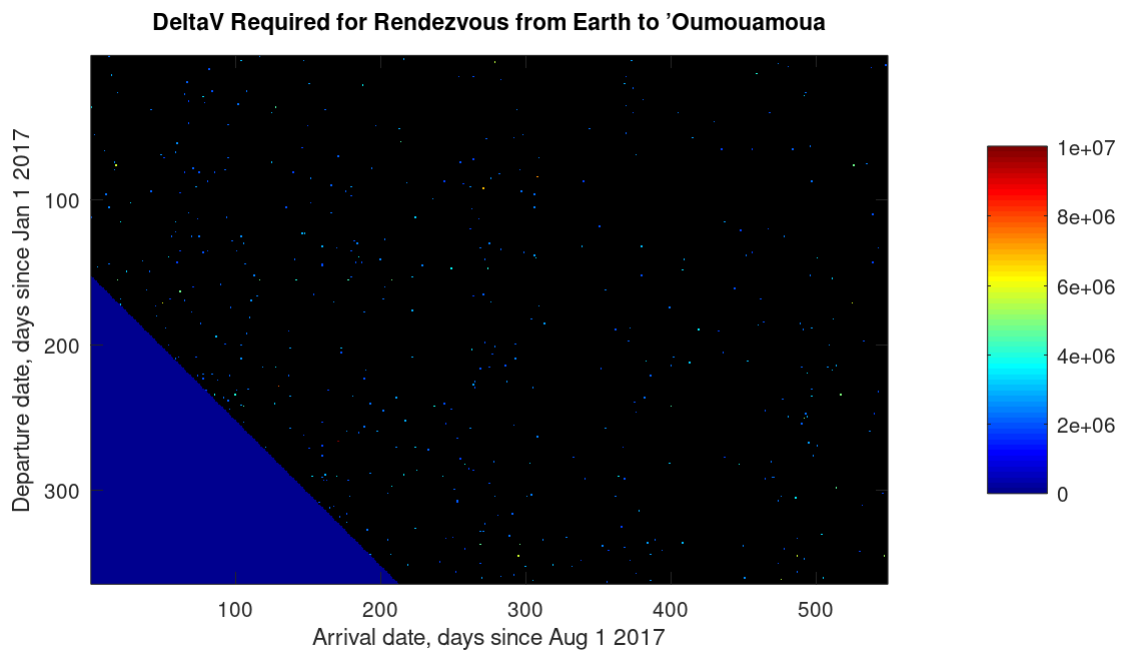
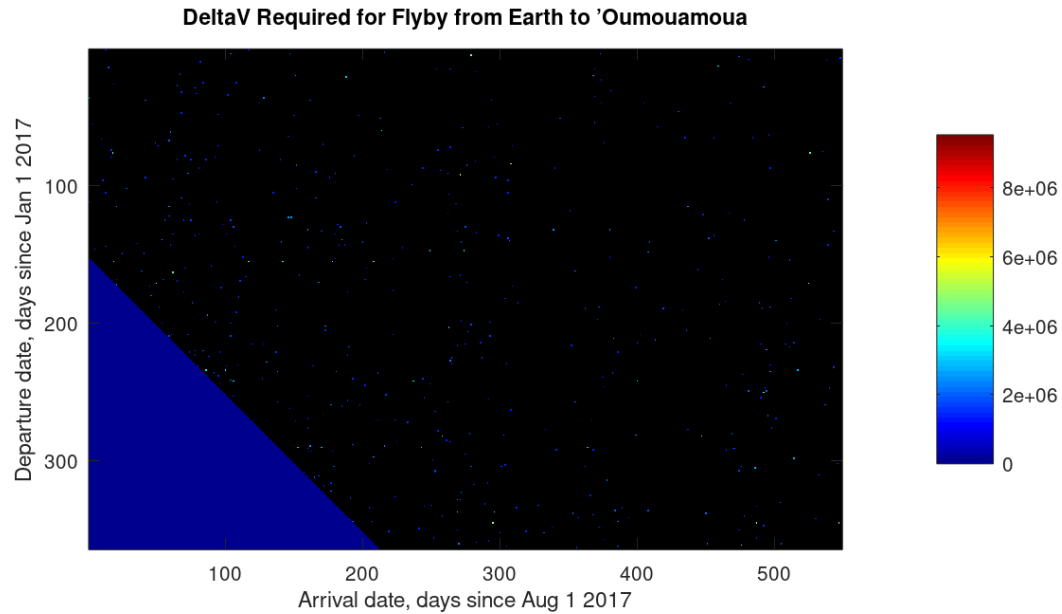
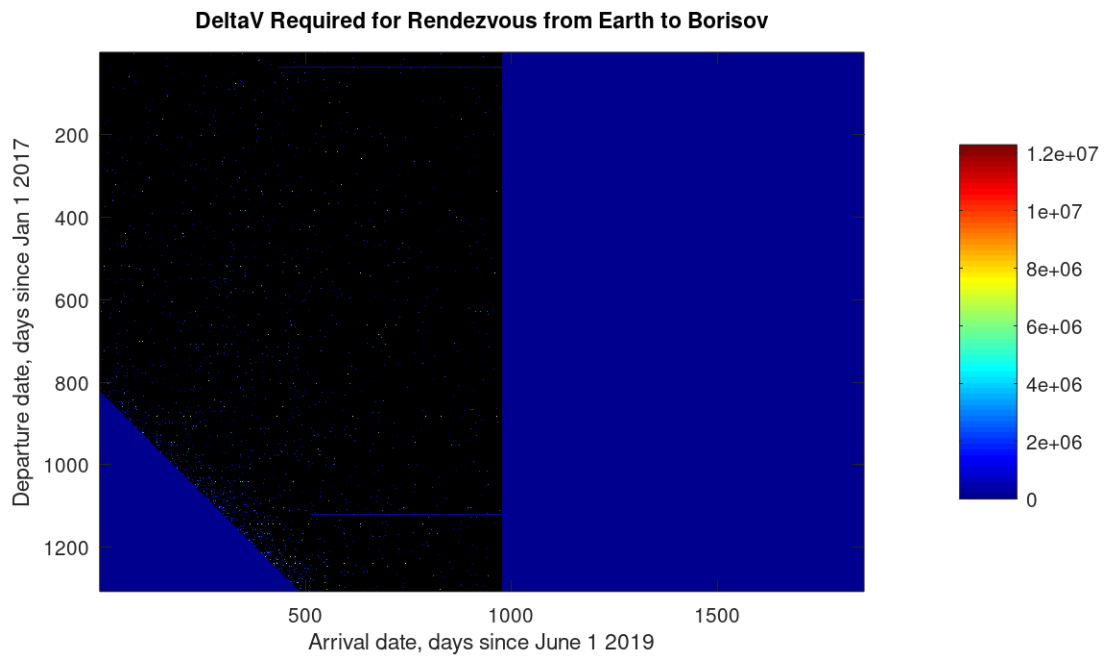
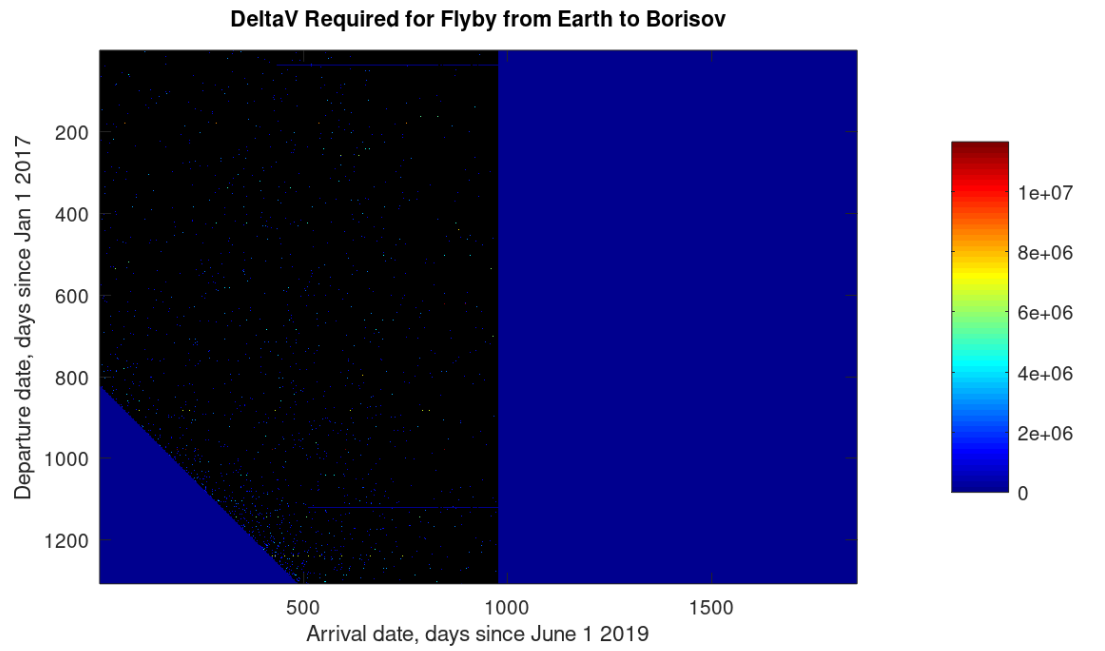


1. I used Curtis 3.3 and 3.4, and several helper functions from the textbook. I needed to modify both Stumpf functions to minimize calls to `sqrt()`, in order to speed up runtime.
2. I used a robust lambert solver that was written by rodyo on github (<https://github.com/rodyo/FEX-Lambert>). This solver uses Izzo's solver initially, and if that fails it falls back to the slower but more stable Lancaster and Blancard solver.
- 3.



4.



5. Object I1 has an eccentricity of ~ 1.2 , meaning it is on a hyperbolic trajectory relative to the sun. Its semi-major axis is 190 million km however, so it's not horribly far from Earth with regards to a flyby.
Object I2 has an eccentricity of ~ 3.36 , making it a far more aggressive hyperbola than object I1. However, it also has a semi-major axis that's is close to 1 AU, making it fly-by-able.
Both objects are interstellar because they are on hyperbolic trajectories relative to the sun.
6. I think that it may be possible that some of these missions are realistic. I ran out of time to strip my data of the infrequent, high DV lambert solutions, but I suspect if I limited the scope of the data to the ranges specified in the problem it would lead to a range of possible missions. This assumption is based on the regions of non-zero solutions in my plots (the dark blue triangles and rectangles).

If I had to pick one object to target I would say object I1, it has an eccentricity closer to 1, and an inclination closer to the ecliptic, and therefore is easier to "get to" mechanically. What I mean by that is, it costs energy to change eccentricity and inclination, and object I1 has an inclination and an eccentricity closer to that of the Earth, making it easier to get to.