

1164-85-227

**Rodney L Anderson\*** ([rodney.l.anderson@jpl.nasa.gov](mailto:rodney.l.anderson@jpl.nasa.gov)), 4800 Oak Grove Drive, M/S  
301-121, Pasadena, CA 91109. *Europa Endgame Tour Design: Ganymede to Europa Approach.*

For tour design scenarios where an approach to Europa for landing or orbit insertion is desired, it is often desirable to perform this final approach in the low-energy regime to reduce the required propellant. Typical patched-conic tour design methods can break down in this regime, but this endgame portion of the tour may be designed using dynamical systems methods. Heteroclinic connections are now used to design transfers and flybys within one circular restricted three-body system, but the endgame portion may include significant effects from both Ganymede and Europa. In this study, a combination of heteroclinic connections within different systems, patched CRTBPs, and maneuver search algorithms are used to explore methods for designing these trajectories while including the effects of both Ganymede and Europa. Sample trajectories for both planar and spatial trajectories are also presented for different mission design scenarios. (Received January 19, 2021)