**Abstract**:

Liberation points, also known as Lagrange points, are points within the plane of a two body system which produce stable and unstable equilibrium in gravitational energy. This equilibrium allows a satellite to travel at the same angular rate as an orbiting body. Lagrange points are traditionally used to stabilize satellites far away from earth. However, these stable points could be used with planets other than earth in order to create Space Stations which act as refueling stations for interplanetary travel. The use of some of the larger solar system bodies, such as Jupiter or Uranus, will be investigated in order to check the validity of a Hohmann or Lambert transfer to their Lagrange points for refueling. This investigation will calculate total changes in velocity and time of flight required to reach these Lagrange points using different transfers. Additionally the total velocity changes and time of flight required to move from these Lagrange points to the outer edges of our solar system will be calculated. If faster orbital transfers using refueling stations to planets further out in our solar system can be achieved, it may open up the possibility for human life to reach far beyond our closest neighbors.

<https://www.space.com/30302-lagrange-points.html>

<http://www.esa.int/Our_Activities/Operations/What_are_Lagrange_points>

<https://www.nasa.gov/topics/universe/features/webb-l2.html>