



Optimization of Transfers to Neptune

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Abstract: Here a mission to Neptune for the mid-term 2008–2020 is proposed. A direct transfer to Neptune is considered and also Venus, Earth, Jupiter and Saturn gravity assists are used for the trip to Neptune. Several mission options are analyzed, such as: Earth–Neptune, Earth–Jupiter–Neptune, Earth–Saturn–Neptune, Earth–Jupiter–Saturn–Neptune, Earth–Venus–Earth–Jupiter–Neptune, Earth–Venus–Earth–Jupiter–Saturn–Neptune. All the transfers are optimized in terms of the ΔV . The goal of this study is to compare the mission options in order to find a good compromise between the ΔV and time of flight to Neptune.

Keywords: *Neptune's system; swing-by; interplanetary mission.*

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