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RAPID, AFFORDABLE, DEDICATED SMALLSAT LAUNCH TO MEO OR GEO ENABLED BY THE USE OF LEO DEPOT REFUELING

Abstract

Existing options for delivering smallsat missions to MEO or GEO all have significant drawbacks. Launches using dedicated smallsat launchers with transfer stages tend to be very expensive on a $/kg basis, and their payload c$ $to-GEO or GTO-to-MEO delivery service, typically lyon a single use tug. Either option can add signi f icant expense to the miss$ $to-MEO or GEO, but these tugs are expensive and very slow, taking months to deliver the payload to its final operational orbit. I$ $per f ormance, dedicated interplanetary small sat missions. By re f ueling the second stage and trans f er stage of a dedicated sm$ $like orbit, the launcher's payload to interplanetary destinations can often be increased by 10-12x compared to what the launcher$