1   Assumption and Theory

Symbol	Description	Value
G	Universal gravitational constant.	$6.67259 \times 10^{-11} \ m^3 kg^{-1} s^{-2}$
R_E	The distance from the sun to the earth.	1.496×10^{11} m
R_M	The distance from the sun to the Mars.	2.2794×10^{11} m
M_S	The masse of the sun.	1.9891×10^{30} kg
M_E	The masse of the earth.	5.965×10^{24} kg
M_M	The masse of the Mars.	6.4219×10^{23} kg
m	Total mass (sail plus payload).	2000 kg
T_E	The period of revolution of earth.	365days ($\simeq 3.1536 \times 10^7$ s)
T_M	The period of revolution of Mars.	687days ($\simeq 5.93568 \times 10^7$ s)
ω_E	The angular velocity of revolution of earth.	1.9924×10^{-7} rad/s
ω_M	The angular velocity of revolution of Mars.	$1.0585 \cdot 10^{-7}$ rad/s

Table 1: List of Constants