

Robot Mass 0.433 Kg
 Coefficient of friction 0.4 Plastic on wood. <https://mae.ufl.edu/designlab/Class%20Projects/Background%20Information/Friction%20coefficients.htm>
 Gravitational acceleration 9.8 m/s²
 Force of friction 1.7 N
 Predicted Thrust 6.5 N

$$d = \frac{1}{2}at^2$$

$$a = \frac{2d}{t^2}$$

$$F = m \cdot \frac{2d}{t^2}$$

Actual Net Thrust + Force of Friction

Formula = 1 - (Expected Thrust)/(Actual Applied Thrust)

Actual Net Thrust X Impulse Duration

$v = (\text{Actual Net Thrust} \cdot \text{Impulse duration}) / \text{Mass}$

Run	Impulse Phase		Glide Phase		Time			Distance			Impulse phase				
	Start Time (s)	End time (s)	Start Time	End Time	Impulse duration	Glide Duration (s)	Total Travel time (s)	Total Distance travelled (m)	Impulse Phase Distance (m)	Glide Distance (m)	Actual Net Thrust (N)	Actual Applied Thrust (N)	% Difference in Thrust (Model vs Measured)	Actual Net Impulse (Ns)	Peak Velocity (m/s)
1	13.98	14.4	14.4	15.4	0.42	1.0	1.4	2.82	0.8	2.02	3.9	5.6	14%	1.6	3.8
2	13.16	13.56	13.56	14.66	0.4	1.1	1.5	3.10	0.8	2.30	4.3	6.0	8%	1.7	4.0
3	17.03	17.37	17.37	18.14	0.34	0.8	1.1	1.68	0.5	1.22	3.4	5.1	22%	1.2	2.7
4	11.51	11.9	11.9	13.01	0.39	1.1	1.5	2.97	0.8	2.17	4.6	6.3	4%	1.8	4.1
5	11.2	11.57	11.57	12.46	0.37	0.9	1.3	2.24	0.7	1.57	3.9	5.6	15%	1.4	3.3

Legend
 Green Actual measurement data
 Clear Calculated from data using arithmetic
 Gold Well known value, sourced via an external source
 Grey Predicted by model
 Orange Indirect measurement: using actual data and Newton's laws of motion and motion equations