Raw Data Sheet

Student Name: Michael Liebel

Team members:

1.- _____ 2.- _____

3.- _____ 4.- _____

Instructor: Michael Liebel

One Dimensional Collisions

Length of the sail: 10.0 (cm)

Table 1.- Columns left to right indicate collision type, car's mass and the time required to travel the length of the sail. The subindices 1 and 2 indicate car number, while i and f refer to the initial and final states. X stands for "not required".

Collision Type	m_1 (g)	m_2 (g)	t_{1i} (s)	t_{1f} (s)	t_{2f} (s)	$t_{2f} + t_{1f}$ (s)
Perfectly Elastic	300.5	300.0	0.1975	X	0.2281	X
Partially Elastic	401.0	200.5	0.2142	0.3669	0.3026	0.6695
Totally Inelastic	200.0	199.5	0.1899	0.4182	X	X

Two Dimensional Elastic Collisions

Frequency of the sparks : 20 (Hz)

Puck's mass : 556 (g)

Table 2.- Raw data: Δl_1 and Δl_2 are the distances between selected points along each track; θ_1 and θ_2 are the angles between the coordinate axes and the velocity vectors. **Note: time is the elapsed time between the selected points.**

State	$\lvert\vec{\Delta l}_1\rvert$ (cm)	θ_1 (degrees)	$\lvert\vec{\Delta l}_2\rvert$ (cm)	θ_2 (degrees)
Initial	2.0	zero	2.4	21.0°
Final	2.3	13.5°	1.6	1.0°

Oct. 14 2025


1
2
θ_{1i}
θ_{2i}