

Raw Data Sheet

Student Name: _____

Team members:

1.- _____ 2.- _____

3.- _____ 4.- _____

Instructor: _____

Spring Constant

Record the relaxed length l_0 : _____ (cm)

Table 1: Rows top to bottom represent mass and length of the spring, respectively.

| | | | | | |
|----------|--|--|--|--|--|
| m (g) | | | | | |
| l (cm) | | | | | |

Kinematics

Record the frequency of the sparks : _____ (Hz)

Record the equilibrium distance, r_0 : _____ (cm)Record the Puck's mass, m_p : _____ (kg)

Table 1.- Raw data: point's index along each track; Δa and Δb are the distances between every third point along each track; r is the distance between the paths, measured between points with the same index; x is the distance between mass center points.

Note: time = index/spark frequency

| Raw data | | | | | Data Analysis | | | | | | | | |
|----------|--------------------|--------------------|-------------|-------------|---------------|-------------------|----------------|----------------|-------------------------------|-------------------------------|--|-------------------------------------|------------|
| Index | Δa (cm) | Δb (cm) | r (cm) | x (cm) | time (s) | v_{cm} (m/s) | v_a (m/s) | v_b (m/s) | $\frac{1}{2}m_p v_a^2$ (J) | $\frac{1}{2}m_p v_b^2$ (J) | $\frac{1}{2}m_p(v_a^2 + v_b^2)$ (J) | $\frac{1}{2}(r - r_0)^2 k_s$ (J) | E (J) |
| 0 | NA | NA | | NA | | | | | | | | | |
| 3 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | |
| 42 | | | | | | | | | | | | | |
| 45 | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | |
| 63 | | | | | | | | | | | | | |
| 66 | | | | | | | | | | | | | |