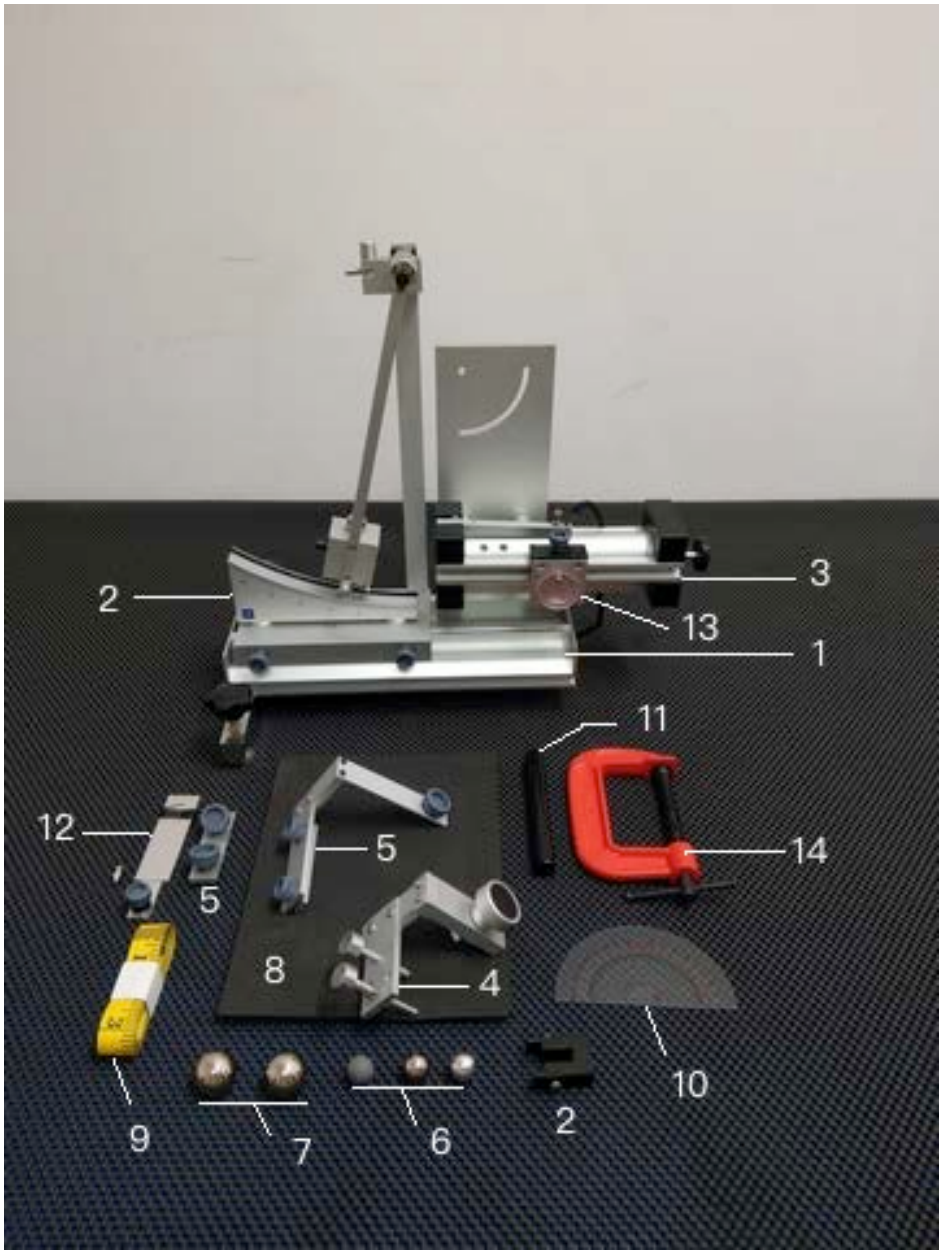
F07 Projectile and collision experiment



F07 Projectile and collision experiment

Experiments:

1. Kinematic equation of projectile motion can be formulated.
2. Momentum conservation of a steel ball in elastic collision can be verified.
3. With conservation of momentum and mechanical energy for perfectly elastic collision, the initial velocity of a ballistic pendulum in can be computed.

Specifications:

Aluminum experimental platform x1

1. Aluminum alloy, an top 3 D biconvex guide track, on the surface, is fastened by U-shaped clips below and one of both sides is adhered to an meter of inclination of 45-degree. And the type of three-point level supporter of 120 x12x4.5cm is subjected at at both ends.
2. Pendulum set with base, 0°~33° ±0.2°angle device can precisive stop the catcher at any angle position and projectile catcher can catch Φ16~25mm bullet , attached weight 5gx4, the pendulum effective length 280mm weight 235g, it hanged steadily by two frictionless bearings x1
3. Three steps launcher set made by aluminum can push bullet ϕ25mm, Φ16mm and attach a thick aluminum launcher mount plate for 0°~90° projectile experiment and collision experiment x1
4. Drop shoot bracket 0° and 30° incl. two screw for two steel ball x1
5. Photogate mounting bracket x1
6. steel ball x1 alum. ball x1 and lead ball x1 each ϕ16mm
7. steel ball ϕ 25mm x2
8. soft pad for ball drop position record x4
9. tape measure 3m x1
10. protractor x1
11. ball loading rod x1
12. locator of ball position in the gun x1
13. inclinometer for gun x1
14. C clip x1
15. optional
    15-1.Photogate timer （Display x1）
    15-2.Photogate timer (External x1)