Contribution ID: **7**   Type: **Poster**

One dimensional two-body collisions experiment based on LabVIEW interface with Arduino

Wednesday 24 May 2017 15:45 (15 minutes)

The purpose of this work is to build a physics lab apparatus that is modern, low-cost and simple. In one dimensional two-body collisions experiment, we used the Arduino UNO R3 as a data acquisition system which was controlled by LabVIEW program. The photo gate sensors were designed using LED and LDR to measure position as a function of the time. Aluminum frame housewares and blower were used for the air track system. In both totally inelastic and elastic collision experiments, the results of momentum and energy conservation are in good agreement with the theoretical calculations.

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Session Classification: Poster Presentation I

Track Classification: Physics Education