



GIREP-EPEC
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GIREP-EPEC conference 2023
Physics learning promoting culture
and addressing societal issues

Contribution ID: 136

Type: **Oral presentation**

Design and implementation of a mechanical balance using electromagnetism concepts and active learning

Tuesday 4 July 2023 16:40 (20 minutes)

This work summarizes a project-based learning experience around electricity and magnetism at the university level. The challenge for students was to build a mechanical balance with the capacity of measure the mass of different objects using a relationship between voltage and mass without using a microprocessor. The typical solution of this project must be relied on mechanical and electromagnetic calculations and experimental tests to verify the data. The balance prototype was built using a solenoid enable to generate a magnetic force at one end of the balance arm, while the mass to be measured is placed on the other arm.

How would you like to present your contribution?

Live in Košice (time slot to be allotted based on the programme)

Target education level (primary)

University education

Target education level (secondary, optional)

Higher-secondary education

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Session Classification: Hybrid session - later

Track Classification: Lab work and experiments in physics education