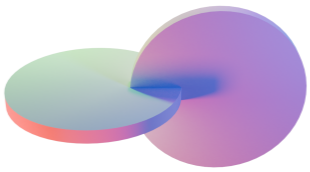

GIREP-EPEC
Transforming physics learning via Research & Practice
LEIDEN, 2025

Contribution ID: **174** Type: **Oral presentation**

# Active learning and computational simulation of a bouncing ball

*Thursday 3 July 2025 15:50 (20 minutes)*

In this work we want to improve the level of learning for the subject of a ball bouncing on flat ground. We have a group of 15 engineering students. By applying an active learning methodology supported with simulations, we get a better interest in the subject, since the behavior of the phenomenon is exposed, and the initial conditions can be controlled. We show the Hake factor obtained with this learning strategy. We hope that these results will be useful in showing the advantages of using active teaching methodologies supported by simulations in the education of some principles of mechanics.

## Education level

Age over 18 (excluding teacher education)

## Physics topic

Other

## Research focus

Active learning

## Research method

Analytic Physics Education Research (Quantitative research)

## Organizing preference criteria

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**Session Classification:** Parallel oral presentations

**Track Classification:** Evaluation & Assessment (EVAL)