4th World Conference on Physics Education

EMBRACING CHANGES TOGETHER

Contribution ID: **99**   Type: **Oral presentations**

Augmented Reality in Electromagnetism: Which representations best support students' understanding?

Friday 30 August 2024 11:50 (20 minutes)

We have developed an Augmented Reality (AR) learning setup in which students investigate the Lorentz force and the superposition of magnetic fields with virtual representations including field vectors, field lines, a vector tripod, and combinations thereof. In an experimental classroom study with N = 77 students, we found no significant differences in conceptual understanding between the different AR conditions. However, exploratory analysis revealed that conditions employing the vector tripod showed better learning results regarding the conceptual knowledge on Lorentz force. Offering multiple as opposed to single virtual representations did not seem to enhance or hamper the acquisition of conceptual knowledge.

How would you like to present your contribution?

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

Target education level

Secondary

Category

Formal Education

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