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

Contribution ID: **79** Type: **Oral presentation**

Exploring Preservice Physics Teachers' Reasoning of Measurement Uncertainty

Thursday 3 July 2025 15:50 (20 minutes)

This study reports the preliminary results of an ongoing research which aims to explore a sample of Turkish preservice physics teachers' reasoning of uncertainty in scientific measurements. The participants consisted of 23 preservice physics teachers. Data sources included written responses to the Physics Measurement Questionnaire (PMQ), laboratory reports, and in-depth interviews. The initial findings showed that participants held naive ideas about the concept of uncertainty in measurements, largely subscribing to either a point-like or mixed reasoning. It was also found that the participants were mostly not confident in their responses, indicating gaps in their conceptual understanding of measurement and uncertainty.

Education level

Pre-service and in-service teacher education

Physics topic

Other

Research focus

Student conceptions / Preconceptions / Misconceptions

Research method

Educational design research (Qualitative research)

Organizing preference criteria

Research focus

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Session Classification: Parallel oral presentations

Track Classification: Physics teacher education & Professional learning (TEACH)