



# GIREP-EPEC

Transforming physics learning via Research & Practice  
LEIDEN, 2025

Contribution ID: 28

Type: **Oral presentation**

## Sun-Earth-Moon system: Difficulties of secondary school students in understanding eclipses

*Tuesday 1 July 2025 09:00 (20 minutes)*

This study aims to analyse the mental model of secondary school students on the topic of Sun-Earth-Moon system, focusing on Moon phases and eclipses. That for, an open-ended questionnaire was designed and implemented with 265 secondary school students whose answers were analysed with phenomenography. The identified difficulties were similar to the ones obtained in the studies found in the literature review.

### Education level

Age 15-18 (Secondary education)

### Physics topic

Astronomy and Astrophysics

### Research focus

Student conceptions / Preconceptions / Misconceptions

### Research method

Mixed method (qualitative & quantitative)

### Organizing preference criteria

**Authors:** GUTIERREZ JIMENEZ, ELVIRA (UPV/EHU); NOT SUPPLIED, PAULO SARRIUGARTE; PORTILLO-BLANCO, Ane (UPV/EHU); ZUZA, Kristina (UPV/EHU (Applied Physics Department))

**Presenter:** GUTIERREZ JIMENEZ, ELVIRA (UPV/EHU)

**Session Classification:** Parallel oral presentations

**Track Classification:** Astronomy and Astrophysics education (ASTRO)