

The conceptual understanding survey of undergraduate physics students and pre-service physics-teacher students about twinkle light from celestial objects

Thursday, June 9, 2016 10:45 AM (15 minutes)

This research describes the results from the conceptual survey of 37 first-year undergraduate physics students (12 student of B.Sc. in Physics and 25 students of dual-degree B.Ed. in Education and B.Sc. in Physics), School of Science, University of Phayao, 15 pre-service physics teacher students, faculty of education, Chiang Mai University and 21 first-year pre-service teacher students, faculty of education, Chiang Rai Rajabhat University. The series of open-ended questionnaires involved twinkle light from a celestial object are used to investigate students' understandings.

The results from all groups reveal that although most of them can give a meaning of twinkle light in general, but they cannot explain how light propagating from stars is twinkling. Some misconceptions such as the variation of stellar light intensity, some intensive or extensive properties of the light source etc. are detected. The results from this research will be used to design the instruction which engages students to have a better understanding in twinkle light from celestial objects.

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Session Classification: Session XXI

Track Classification: Physics Education