

Abstract Submitted
for the APR17 Meeting of
The American Physical Society

Uncovering introductory astronomy students' conceptual modules of lunar phases REBECCA LINDELL, Purdue University, West Lafayette IN, ADRIENNE TRAXLER, Wright State University, Dayton OH — Brewster, Bruun and Bearden developed Module Analysis of Multiple Choice Responses (MAMCR) methodology for using network analysis to uncover the underlying conceptual modules of student performance on multiple-choice assessments. The Lunar Phases Concept Inventory (LPCI) assesses students' understanding of lunar phases across 8 separate dimensions of understanding based on the results of a detailed qualitative phenomenology of college students' understanding of lunar phases. Unlike many concept inventories, the LPCI has multiple items for each dimension of understanding and each response corresponds to either the scientifically correct answer or to an alternative idea uncovered from the qualitative investigation. In this study, we have combined MAMCR with the database of nearly 2000 LPCI pre-test results. We will report on the preliminary different conceptual modules of lunar phases and the relationship of these modules to previous qualitative research.

Rebecca Lindell
Purdue University, West Lafayette IN

Date submitted: 30 Sep 2016

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