PHYSICS GUEST SEMINAR

ASSISTANT PROFESSOR SEARCH CANDIDATE

Dr. Bashirah Ibrahim

The Ohio State University

Thursday, March 8, 2018 • Ross 0220
10:00 – 11:00 am

Following the presentation, students are encouraged to visit with Dr. Ibrahim and enjoy refreshments from 11:10 – 11:50

Synthesis Physics Problem Solving

Problem solving plays a central role in any science discipline. A substantial body of previous work in Physics Education has emphasized single-concept problems. In this study, we investigate students' handling of synthesis problems, i.e tasks consisting of two or more distinct concepts, typically from different chapters and separated in the teaching timeline.

The core of synthesis problems is the integration of multiple concepts as well as the mathematical formulations emerging from the application of the concepts in order to build a solution. In this talk, I will report the role of mathematical complexity in students' handling of the conceptual and mathematical aspect of synthesis problems (i.e., simultaneous and sequential synthesis tasks). Instructional implications will also be discussed.