

Abstract Submitted
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Should we teach the Bohr model? S. B. MCKAGAN, K. K. PERKINS, C. E. WIEMAN, University of Colorado — Some education researchers have claimed that we should not teach the Bohr model of the atom because it inhibits students' ability to learn the true wave nature of electrons in atoms. Although the evidence for this claim is weak, many in the physics education research community have accepted it. This claim has implications for how we present atoms in classes ranging from elementary school to graduate school. We present results from a study designed to test this claim by developing curriculum on models of the atom, including the Bohr model and the Schrodinger model. We examine student descriptions of atoms on final exams in reformed modern physics classes using various versions of this curriculum. Preliminary results show that if the curriculum does not include sufficient connections between different models, many students still have a Bohr-like view of atoms, rather than a more accurate quantum mechanical view. We present further studies based on an improved curriculum designed to develop model-building skills and with better integration between different models. We will also present a new interactive computer simulation on models of the atom designed to address these issues.

Sarah McKagan
University of Colorado

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