

Abstract Submitted
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Studying the importance of students' beliefs in physics education¹

KATHERINE K. PERKINS, WENDY K. ADAMS, KARA E. GRAY, MINDY GRATNY, STEVEN J. POLLOCK, CARL E. WIEMAN, University of Colorado at Boulder — We have developed and used a new survey instrument – the Colorado Learning Attitudes about Science Survey (CLASS)^{1,2}– to extensively study the importance of students' beliefs about physics and about learning physics to physics education. Since Fall 2003, we have surveyed over 10000 students in 50 physics courses ranging from courses for non-science majors to graduate courses in physics. In this poster, we characterize the range of student beliefs across the undergraduate physics curriculum from non-science majors to physics majors. In addition, we examine the relationships between students' beliefs about physics and learning physics and other important education outcomes, including their conceptual learning, their interest in physics, and pursuit of science study. Finally, we examine the relationship between students' beliefs and classroom teaching practices. 1. W.K. Adams, K.K. Perkins, N. Podolefsky, M. Dubson, N.D. Finkelstein and C.E. Wieman, “A new instrument for measuring student beliefs about physics and learning physics: the Colorado Learning Attitudes about Science Survey”, Phys. Rev ST: Phys. Educ. Res. 2, 1, 010101 (2006). 2. See <http://per.colorado.edu> for relevant papers.

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