

Abstract Submitted
for the APR17 Meeting of
The American Physical Society

Student understanding of balancing, mass distribution and center of mass¹ PAULA HERON, Univ of Washington — Understanding the relationships between balancing, mass distribution and the center of mass is challenging for students. In particular there is a widespread tendency to attribute a balanced state to equal amounts of mass to both sides of the fulcrum if the mass distribution is continuous.(1) A number of explanations have been proposed, including a recent suggestion that perceptual difficulties in locating the center of mass are, at least in part, to blame.(2) Recent experiments suggest that it is unlikely that perceptual difficulties play a significant role. The results have implications for the interpretation of common student errors more broadly. (1) Ortiz, Heron and Shaffer, American Journal of Physics, 2005. (2) Sattizahn et. al., Mind, Brain and Education, 2015.

¹Supported in part by the NSF through DUE 1022449 and DUE 1432765.

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Date submitted: 29 Sep 2016

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