

Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Comparison of Students' Ability to Measure Distance using Wavelength in 1D and 2D Settings GARY WHITE, The George Washington University — When physics students are asked to measure the distance between two fixed locations using a concrete object like a pencil, virtually all respond successfully; however, in some settings, when asked to perform a similar measurement using wavelength as a ruler, there is less success, especially if the students are first asked to note that the “ruler” to be used is not fixed in length (see “Is a Simple Measurement Task a Roadblock to Student Understanding of Wave Phenomena?,” by M. Kryjevskaja, M. Stetzer, and P. Heron, *The Physics Teacher* 51,560, (2103) and references therein). I will show some data from introductory classes (algebra- and calculus-based) that replicate this latter result, and also show some interesting features when comparing particular 1D and 2D contexts.

Gary White
The George Washington University

Date submitted: 03 Dec 2014

Electronic form version 1.4