

Abstract Submitted
for the TSS12 Meeting of
The American Physical Society

Student Understanding and Application of the Dirac Delta Function DAVID DONNELLY, HUNTER CLOSE, Texas State University-San Marcos — We will present the analysis of student responses to a survey designed to test their understanding of and ability to use the Dirac delta function to solve problems in an upper division electrodynamics course. Students were asked to solve three different problems involving the Delta function, and to articulate the reasoning they were using to solve the problem. Results indicate that: 1. students view two-dimensional and three-dimensional problems as independent concepts rather than one being a special case of the other. 2. Students understand the Dirac delta function as acting as a “localization operator”, but are not able to employ the delta function in a mathematically formal way. 3. Students view the Dirac delta function as similar to the Kronecker delta. Namely that it is a piecewise continuous function.

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Date submitted: 13 Feb 2012

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