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Pablo Ulises Suarez* (psuarez@desu.edu), 1200 N Dupont Hwy, Dover, DE 19901. *Introducing the Split Step Fourier Method with MATLAB*. Preliminary report.

The Step Split Fourier Method(SSFM) provides an excellent methodology for learning and teaching how to solve time dependent partial differential equations. This method is ubiquitously used in engineering and physics applications. In this talk, we present the simplicity of this method by solving the Linear and Nonlinear Schrödinger Equation and with the aid of MATLAB, a numerical software package commonly used in undergraduate courses, we demonstrate a straight forward implementation. Extension to other type of problems can be done by using the basic SSFM algorithm and the code presented here can easily be modified to accommodate these any new situations. (Received August 24, 2012)