1035-35-2012 **Donald A. Outing*** (donald.outing@usma.edu), Department of Mathematical Sciences, United States Military Academy, West Point, NY 10996. *Parabolic Equation Techniques for Range-Dependent Seismo-Acoustics.*

The parabolic equation method is useful for solving nonseparable wave propagation problems that are dominated by outgoing energy. It is an important method because such problems are very common; applications include seismology, ocean acoustics, atmospheric acoustics, gravity waves, electromagnetic waves, waves in porous media, and nonlinear waves. Parabolic equation techniques provide large efficiency gains and make it possible to routinely solve problems that would otherwise be difficult. Parabolic equation techniques are also very accurate provided the outgoing assumption holds. In this presentation, the speaker will provide an overview of parabolic equation techniques and discuss recent progress made in resolving some of the issues in the development of parabolic equation techniques. (Received September 21, 2007)