1035-I1-1195 **Elisha Peterson*** (`elisha.peterson@usma.edu`), Department of Mathematical Sciences, United States Military Academy, West Point, NY 10996. *Visualizing Lagrange multipliers: a discovery approach to constrained optimization.*

Lagrange multipliers is typically one of the more challenging topics in a differential calculus course. This talk will describe a series of web-based applets, created using Geogebra, that guide students to the realization that solutions to constrained optimization problems often occur when level surfaces are tangent. Student feedback indicated that the experimental approach helped them to see the "why" behind Lagrange multipliers, rather than just a procedure to memorize. If time permits, the speaker will demonstrate other applets used in a multivariable differential calculus course. (Received September 19, 2007)