1056-35-1626   **Charles K Smart*** (`smart@math.berkeley.edu`), Department of Mathematics, University of California, Berkeley, CA 94720-3840. *Numerical methods for the infinity Laplace equation.*

I will describe research developing numerical methods for the infinity Laplace equation. I will construct a provably convergent scheme with a high order rate of convergence. The scheme is a hybrid of a finite element method and monotone finite difference scheme and is motivated by my recent work with Scott Armstrong. Time permitting, I will discuss generalizations to other equations. (Received September 22, 2009)