1056-49-345 **Yingying Li*** (yingyingli@math.ucla.com), UCLA Mathematics Department, Box 951555, Los Angeles, CA 90095-1555, and **Stanley Osher** (sjo@math.ucla.edu), UCLA Mathematics Department, Box 951555, Los Angeles, CA 90095-1555. *Coordinate Descent for L1 Optimization.* Preliminary report.

As compressed sensing gains popularity, L1 optimization becomes more important than before since it preserves sparsity. However, the non-differentiability of the L1 norm brings difficulties in solving it. As a simple and traditional method for solving high dimensional optimization problems, coordinate decent can be applied to various applications with objectives involving an L1 term, for example, source identification and TV-based image denoising. (Received August 31, 2009)