

Meeting: 1005, Newark, Delaware, SS 3A, Special Session on Mathematical Methods in Electromagnetic Wave Propagation

1005-65-202 **Sun Jiguang*** (sun@math.udel.edu), Department of Mathematical Sciences, University of Delaware, Newark, DE 19711. *An Adaptive Algebraic Multigrid Algorithm for Micromagnetism.*

An adaptive Algebraic Multigrid (AMG) algorithm is presented. The method is intended for large sparse matrix equations which arise from finite element (FE) discretizations of the stray field in 3D micromagnetism on non-uniform grids. It uses a varying threshold value to control the grid complexity trying to optimize the overall efficiency of the AMG solver. Numerical results are presented and compared with the conjugate gradient method. (Received February 09, 2005)