1046-35-1097 **David Chopp*** (chopp@northwestern.edu), ESAM, Tech Institute, 2145 Sheridan Road, Northwestern University, Evanston, IL 60208-3125. *Simulating 3D Fatigue Crack Growth.*

Modeling and simulation of fatigue cracks are important tools in maintaining structures used everyday from bridges to airplanes. These tools are used to estimate the expected lifespan of vital components so that they can be replaced before a catastrophic failure. In this talk, we will describe the use of a combined fast marching method with the extended finite element method (XFEM) to simulate non-planar 3D crack growth. (Received September 14, 2008)