1010-65-73   **Necibe Tuncer*** (`tuncene@auburn.edu`), Auburn University,Department of Mathematics, and Statistics, 221 Parker Hall, Auburn, AL 36849, and **Amnon J. Meir**. *Approximation properties of radially projected finite elements.*

The numerical approximation of partial differential equations on the sphere has been an attractive subject of late. We study the Laplace eqauation as a model problem with Dirichlet boundary conditions. Here the domain is the unit disc. In our research, we use the FEM on the unit disc by mapping the domain to the unit square with the radial projection T. We introduce these mapped finite elements on the unit disc as "radially projected finite elements" We discuss the approximation properties of radially projected finite elements on the unit disc and the sphere. (Received August 19, 2005)