998-52-48   **Joel A Tropp*** (`jtropp@ices.utexas.edu`), Inst. for Comput. Engr. and Sci., 1 University Station (C0200), The University of Texas at Austin, Austin, TX 78712, **Inderjit S Dhillon** (`inderjit@cs.utexas.edu`), Dept. of Computer Sciences, 1 University Station (C0500), The University of Texas at Austin, Austin, TX 78712, **Robert W Heath** (`rheath@ece.utexas.edu`), Dept. of Electrical and Computer Engineering, 1 University Station (C0803), The University of Texas at Austin, Austin, TX 78712, and **Thomas Strohmer** (`strohmer@math.ucdavis.edu`), Dept. of Mathematics, 1 Shield Avenue, The University of California at Davis, Davis, CA 95616. *Constructing Equiangular Tight Frames via Alternating Projection.*

An equiangular tight frame for a finite-dimensional Hilbert space is a collection of unit vectors whose pairwise absolute inner products are identical and minimal. Equiangular tight frames have many applications in coding theory, communications and nonlinear approximation, but one must solve a difficult combinatorial optimization problem to construct them. This talk proposes an alternating projection method for producing equiangular tight frames and exhibits empirical evidence of its potency. A similar method can be used to compute packings of points in Grassmannian manifolds. (Received January 05, 2004)