Meeting: 1003, Atlanta, Georgia, AMS CP 1, AMS Contributed Paper Session

1003-62-1000   **Ofelia Marin*** (`ofelia@stat.ohio-state.edu`), Ohio State University, Department of Statistics, 1958 Neil Avenue, Columbus, OH 43210. *An Empirical Comparison of Several Popular Designs for Computer Experiments.*

We perform an empirical comparison of several popular designs for computer experiments introduced in the numerical integration literature. The comparisons are in terms of the prediction accuracy of a cubic model fit using least squares and four Empirical Best Linear Unbiased Predictors (EBLUPs) obtained by using either the Matérn or power exponential correlation function with correlation parameters estimated by maximum likelihood (ML) or restricted maximum likelihood (REML). The prediction accuracy was determined by computing the mean squared prediction error (MSPE) over sets of fifty random surfaces obtained as slightly contaminated cubic functions, using the *Hartman 6* family of test functions and as EBLUP-type interpolators generated using the krigifier of Trosset (1999) and Trosset and Padula (2000). Among the designs studied are Latin hypercube, Uniform Design, Sobol Sequence, Niederreiter Sequence, Good Lattice Points, Scrambled Nets and D-optimal. (Received October 01, 2004)