

A sliced Latin hypercube design is a special Latin hypercube design that can be partitioned into smaller Latin hypercube designs. We propose an algorithm to construct sliced Latin hypercube designs with controlled column-wise correlations for each slice and the entire design. The proposed algorithm can significantly decrease the column-wise correlations in each slice as the number of slices increases even if the number of runs in each slice is fixed. The algorithm is flexible in sample size and can be extended to control the quadratic canonical correlations of the larger design. The convergence behavior of the algorithm is studied and the effectiveness of the algorithm is illustrated by several examples.