

1158-05-133

Jane Ivy Coons* (jicoons@ncsu.edu), NC , and **Seth Sullivant**. *Maximum Likelihood Estimation for Independence Models with Structural Zeros.*

A two-way independence model with structural zeros is obtained from a two-way independence model by forcing the probability of some outcomes to be zero. We use algebra and combinatorics to approach the problem of maximum likelihood estimation in these models. In cases where the structural zeros of the model avoid certain patterns, we give an explicit formula for the maximum likelihood estimate as a rational function of the data. (Received February 27, 2020)