

1078-05-77

Persi Diaconis, Jason Fulman* (fulman@usc.edu) and **Susan Holmes**. *Analysis of casino shelf shuffling machines*.

Many casinos routinely use mechanical card shuffling machines. We were asked to evaluate a new product, a shelf shuffler. This leads to new probability, new combinatorics, and to some practical advice which was adopted by the manufacturer. The interplay between theory, computing, and real-world application is developed. (Received November 21, 2011)