1106-05-1764   **Aaron M. Montgomery*** (`amontgom@bw.edu`), Department of Mathematics & Computer Science, Baldwin Wallace University, Berea, OH 44130. *An Asymptotic Formula for the Number of Balanced Incomplete Block Design Incidence Matrices.*

We identify a relationship between a random walk on a certain Euclidean lattice and incidence matrices of balanced incomplete block designs, which arise in combinatorial design theory. We then compute the return probability of the random walk and use it to obtain the asymptotic number of BIBD incidence matrices (as the number of columns increases). Our strategy is similar in spirit to the one used by de Launey and Levin to count partial Hadamard matrices. (Received September 15, 2014)