ERRATUM TO “HOW MANY ZEROS OF A RANDOM POLYNOMIAL ARE REAL?”

ALAN EDELMAN AND ERIC KOSTLAN

In Section 4.3 of the article “How many zeros of a random polynomial are real?” by Alan Edelman and Eric Kostlan (Bull. Amer. Math. Soc. (N.S.) 32 (1) (1995), 1–37), we meant to say that the eigenvector matrix, not the incidence matrix, is the tensor (or Kronecker) product of \( \begin{pmatrix} 1 & -1 \\ -1 & 1 \end{pmatrix} \) \( n \) times. This tensor product is the simplest Hadamard matrix. The eigenvalues of the incidence matrix may then be seen to be \( 2k - n \) for \( k = 0, \ldots, n \).

We regret the statement in Section 2.5 that the constant \( C_1 \) in the asymptotic expansion of the Kac formula was unknown to previous researchers. Indeed the constant \( C_1 \) and further asymptotic terms were known to Wilkins [1], who also reports on previous work deriving \( C_1 \) by Jamrom and Wang going back to 1971 and 1983 respectively. We do believe, however, that our derivation is new.

ACKNOWLEDGMENTS

We gratefully thank Kent Morrison for catching our incidence matrix error, and J. Ernest Wilkins, Jr., of the Clark Atlanta University for informing us about previous work on the asymptotics of the Kac formula. We also appreciate all of the interesting feedback on this paper that we have received.

REFERENCES