Correction: Correction to "Laplace’s Method for Gaussian Integrals with an Application to Statistical Mechanics"

Richard S. Ellis; Jay S. Rosen


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CORRECTION

LAPLACE'S METHOD FOR GAUSSIAN INTEGRALS WITH AN APPLICATION TO STATISTICAL MECHANICS

BY RICHARD S. ELLIS AND JAY S. ROSEN

University of Massachusetts


Chii-Ruey Hwang and Tzau-Shuh Chiang have found an error on page 62 of our paper, which invalidates our proof of the upper bound (1.12). However, a correct proof of (1.12) has been found recently. In fact, E. Bolthausen has proved a large deviations result for sums of i.i.d. random vectors which take values in a real separable Banach space and which are distributed by probability measures \( \{ \mu_n \} \) converging weakly to a probability measure \( \mu \) (“On the Probability of Large Deviations in Banach Spaces”, Technische Universität Berlin preprint, 1982). This result includes the Gaussian bounds (1.12) and (1.13) as special cases.

The Error. On page 62, we claim that \( \cap r, \mathcal{K}_r, \subseteq \mathcal{A} \). This is wrong. Since \( \mathcal{K}_r \) is defined in terms of an \( L^2[0, 1] \)-neighborhood of \( \mathcal{A} \), it is easy to find examples of proper closed subsets \( \mathcal{A} \) in \( C[0, 1] \) for which \( \mathcal{K}_r \) is all of \( C[0, 1] \) and \( \cap r, \mathcal{K}_r \) is not a subset of \( \mathcal{A} \). Hence (1.12) is not proved correctly.

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BY S. S. MITRA

Pennsylvania State University, DuBois Campus


1 Received October 1982.
2 Received October 1982.

456