From zero-bias to Cramer-type moderate deviation

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Let W be a random variable with mean 0 and variance 1 and let W* be W-zero-biased, that is EWf(W) = Ef'(W*) for all bounded functions f with bounded derivatives. We show that normal approximation of W* leads to discretized normal approximation (in total variation) for sums of integer-valued random variables and Cramer-type moderate deviation for W for which W − W* is bounded.