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Ruoting Gong* (rgong2@iit.edu), Room 116-B, Engineering 1 Building, 10 West 32nd Street, Chicago, IL 60616, and **Christian Houdre** and **Juri Lember**. *Lower Bounds on the Generalized Central Moments of the Optimal Alignments Score of Random Sequences.*

We present a general approach to the problem of determining tight asymptotic lower bounds for generalized central moments of the optimal alignment score of two independent sequences of i.i.d. random variables. At first these are obtained under a main assumption for which sufficient conditions are provided. When the main assumption fails, we nevertheless develop a “uniform approximation” method leading to asymptotic lower bounds. Our general results are then applied to the length of the longest common subsequence of binary strings, in which case asymptotic lower bounds are obtained for the moments and the exponential moments of the optimal score. This is the joint work with Christian Houdré and Jüri Lember. (Received August 10, 2015)