

The Klee-Minty edge chain moves with constant speed

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We study the so-called RANDOM-EDGE simplex algorithm on the n -dimensional Klee-Minty cube. We considered the following model: An infinite sequence of 0's and 1's on the positive integers evolves by flipping each 1 to 0 exponentially at rate one. When a 1 flips then all the bits to its right flip. We show that the speed of the leftmost 1 is constant. This implies that the complexity of the RANDOM-EDGE is quadratic, improving an earlier result of Gunter, Henk and Ziegler.

This is a joint work with Robin Pemantle.