

M E G H Í V Ó

az Összintézeti Szeminárium következő előadására, mely 2005. március 21-én,
hétfőn du 2-kor lesz a Nagyteremben. A program:

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Jim Propp's Random Walk Simulator

Start, say, with 6,317,515,152 chips at position zero. At each time unit take each pile of chips and send half of them one unit to the left and half of them one unit to the right. But what if a pile has an odd number of chips? To each position there is an arrow pointing left or right. When a position has an odd number of chips the odd chip is sent in the direction of the arrow and then the arrow reverses itself. The reversal of the arrow is critical in minimizing the bias.

This deterministic procedure is clearly close to the randomized procedure in which each chip goes left or right one unit with equal probability. We examine the difference between the two procedures and show that that difference is extremely small. In particular, at any time and at any space the difference between the expected number of chips in the randomized procedure and the actual number of chips in the Propp simulator is at most 2.294188 – regardless of the number of chips at the start and the initial setting of the arrows.

We further examine average differences over both space and time and analogous simulations – for example, of random walk in d -space.

(Joint work with Joshua Cooper, Benjamin Doerr and Gabor Tardos.)

MINDEN ÉRDEKLŐDŐT SZERETETTEL VÁRUNK!

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