



Colóquios da DFM

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Random walk on systems on the integers

Assume that there is an infinite quantity of computers connected in line, and that each computer only communicates with the one on its right and the one on its left. Suppose that at time zero only one computer is infected by a virus which randomly chooses to jump to the computer on the left or the one on the right, infecting it. When one or more viruses (all viruses jump at discrete times) hit a computer, this computer is infected by a new virus which starts the same dynamics of jumps. After infected each computer activates an anti-virus which will kill any virus that jumps in the future on it. Is there a positive probability that an infinite quantity of computers will be infected? What happens if we create stronger virus, which are able to survive a larger number of computers with anti-virus?

We study random walks systems on finite and infinite graphs ($\mathbb{Z}$ in the above example) whose general description and recent results will be presented.

Dia: 06/10/2006 - 14 horas

Anfiteatro das Exatas

(bloco Didático das Exatas)