

Integrable maps and lattice maps

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Abstract:

Going to the discrete world turns differential equations into maps, and similarly turns partial differential equations into “lattice maps”. We will describe such maps, and comment on their integrability. We will in particular explain the link of integrability with complexity, as measured by the so called algebraic entropy.

References:

1. M. Bellon and CM. Viallet, *Comm.Math.Phys.* 204 (1999), pp. 425-437
2. B. Grammaticos, RG. Halburd, A. Ramani, and CM. Viallet, “How to detect the integrability of discrete systems”, *J. Phys. A; Math. Theor.* 42 (2009), 454002