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Mihai Caragiu* (m-caragiu1@onu.edu), Ada, OH 45810. *On p -adic Ducci games.* Preliminary report.

The n -number Ducci games over rings of p -adic integers \mathbb{Z}_p can be viewed as linear recurrent sequences in the ring $R = \mathbb{Z}_p[x]/(x^n - 1)$ consisting of successive multiplication by an element $f(x) = c_0 + c_1x + \dots + c_{n-1}x^{n-1} \in R$. We will show that the probability that a randomly chosen f generates p -adic Ducci games which converge to zero no matter the initial input, is p^{-t} , where t is the largest factor of n that is not divisible by the prime p . (Received January 22, 2007)