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Abstracts of Short Communications and Posters

Section:

12. Probability and Statistics

1991 MS Classification: 60
Khrennikov, Andrei, Vaxjo University, Sweden:
Non-Kolmogorov models with p-adic probabilities
Kolmogorov's probabilistic formalism has its natural domain of applications. Thus it would be interesting to present non-Kolmogorov models. To have connection with reality, we have to develop a mathematical theory in connection with some interpretation of probability. We develop non-Kolmogorov models based on p-adic numbers To obtain a p-adic extension of the frequency probability theory (via R. von Mises), we use the evident fact: relative frequencies $\nu_N = n/N$ always belong $\mathbf{Q}$. Thus we can study their behaviour, not only for the real metric ρ_R on $\mathbf{Q}$, but for other metrics; for example, for p-adic metrics ρ_p. We study p-adic analogues of collectives of R. von Mises.
Reference: A. Yu. Khrennikov, p-adic valued distributions in mathematical physics. Kluwer Academic Publishers, Dordrecht (1994).