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What do stable Levy processes have in common with Quantum Topology?

Stable processes are self-similar Levy processes, thus one would expect that the study of these processes would require mostly probabilistic tools, such as excursion theory, Lamperti transformation, etc. Surprisingly, the problem of obtaining the distribution of extrema of stable processes is closely related to elliptic functions, lattices and Diophantine approximations. In this talk we will discuss our recent results on extrema of stable processes, highlight connections with other areas of Mathematics and present some open questions.