

Deformed mathematical objects stemming from the q -logarithm function

Ernesto Pinheiro Borges - UFBA/BA

Generalized numbers, arithmetic operators and derivative operators, grouped in four classes based on symmetry features, are introduced. Their building element is the pair of q -logarithm/ q -exponential inverse functions. Commutativity, associativity and distributivity, and also a pair of linear/nonlinear derivatives are observed within each class. Two entropic functionals emerge from the formalism, one of them is the nonadditive Tsallis entropy.