

Gaussian Binomial Coefficients with Negative Arguments

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In the early 90s, Loeb showed that a natural extension of the usual binomial coefficient to negative (integer) entries continues to satisfy many of the fundamental properties. In particular, he gave a uniform binomial theorem as well as a combinatorial interpretation in terms of choosing subsets of sets with a negative number of elements. We tell this remarkably little known story and show that all of it can be extended to the case of Gaussian binomial coefficients. This talk is based on joint work with Sam Formichella.