

## MULTIPLE BINOMIAL SUMS

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Multiple binomial sums form a very rich class with a lot of structure, which makes it possible to design specific algorithms that prove or discover closed forms or recurrences. In particular, these sums can be expressed as diagonals of rational functions and recurrences can then be obtained by computing a linear differential equation satisfied by the integral of a rational function. We discuss the complexity aspects of this approach as well as its practical use, and compare it to variants of Zeilberger's algorithm.

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