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The determinant of the matrix of multidimensional hypergeometric integrals. (English. Russian original) Zbl 0737.05033

Summary: The analysis of general hypergeometric functions is closely connected with the geometry of configurations of hyperplanes. In this note we associate the matrix of multidimensional hypergeometric integrals with a set of linear functions and the configuration of hyperplanes defined by them. We give a formula that expresses the determinant of this matrix by means of the critical values of the restrictions of the linear functions to the configuration defined by them.

MSC:
05B30 Other designs, configurations
15A15 Determinants, permanents, traces, other special matrix functions
33C60 Hypergeometric integrals and functions defined by them (E, G, H and I functions)
52B05 Combinatorial properties of polytopes and polyhedra (number of faces, shortest paths, etc.)

Keywords:
hypergeometric integrals; configuration of hyperplanes