



MAFIA - the seminar you can't refuse

Hyper-usefulness of hypergeometric functions

Petr Blaschke

Slezská univerzita

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Abstract: Hypergeometric functions is one of the oldest concept in analysis. Their origin (as the origin of everything else) can be traced back to Euler almost 300 years ago. Yet, to this day, they were given – in the author's opinion – not enough credit. For one, they include – for specific values of parameters – virtually all special functions one can think of, including various orthogonal polynomials (which are honorary members of the set of special functions). They can be used to represent many famous numbers, like Catalan's constant, Gelfond constant etc. They can reduce a difficult analytical problem concerning asymptotic behavior of some ugly function to an algebraic exercise. They can also simplify process of finding antiderivatives to the point of triviality. In fact, the speaker will try to make an (not so compelling) argument that the subject of hypergeometric functions should be taught in sophomore classes.