

The hypergeometric function and WKB solutions

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Abstract: We introduce a large parameter in the three parameters of the hypergeometric differential equation and consider exact WKB solutions. These formal solutions are Borel summable with respect to the parameter under suitable conditions. Taking the Borel sum, we obtain analytic solutions of the equation. We give the relations between the hypergeometric function and Borel resummed WKB solutions. As an application, we have asymptotic expansion formulas of the hypergeometric function with respect to the large parameter.