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**Steven Sperber\*** (sperber@math.umn.edu). *Slopes for Hypergeometric Functions*. Preliminary report.

In joint work with Adolphson, we fix a prime  $p$  and consider some  $p$ -adic properties of classical hypergeometric functions having rational parameters. We realize the associated differential equation as arising from geometry. In particular the  $p$ -adic cohomology of a suitable family of varieties has the Gauss-Manin connection acting on it as well as a Frobenius map. We study the  $p$ -adic size of the eigenvalues of Frobenius. This is related to the  $p$ -adic growth of the solutions. (Received August 29, 2011)