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**Hypergeometric functions and toric varieties. (Hypergeometric functions and toral manifolds.)** (English. Russian original) [Zbl 0721.33006](#)

*Funct. Anal. Appl.* **23**, No. 2, 94-106 (1989); translation from *Funkts. Anal. Prilozh.* **23**, No. 2, 12-26 (1989); correction *Funct. Anal. Appl.* **27**, No. 4, 295 (1993); translation from *Funkts. Anal. Prilozh.* **27**, No. 4, 91 (1993).

The paper studies the holonomy systems of linear differential equations connected with linear representations of complex tori. The characteristic manifold, the characteristic cycle of the system and, in particular, the number of independent solutions in a neighbourhood of a given point are expressed in terms of the volume of the corresponding Newton polyhedron. The basis of the space of solutions is expressed explicitly using the series of hypergeometric type. The paper contains also a number of examples which include many classical hypergeometric functions of one or several variables.

Reviewer: [V.Müller](#)

**MSC:**

[33C70](#) Other hypergeometric functions and integrals in several variables

[34A25](#) Analytical theory of ordinary differential equations: series, transformations, transforms, operational calculus, etc.

[14Q99](#) Computational aspects in algebraic geometry

Cited in **13** Reviews  
Cited in **77** Documents

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[Newton polyhedron](#)

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