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*Differential Geometry and Justification of Conjectures of Number Theory and Mathematical Physics*

**Abstract:** We construct, investigate and apply the methods of differential geometry and homological/homotopical algebra to justification of conjectures of number theory and mathematical physics.

Important ingredients of our methods is the globalization of the problem and developing and applying methods in the framework of the globalization.

Earlier D. Krupka and D. Krupka with colleagues have developed and applied methods of globalization to some problems of mathematics and mathematical physics and obtained profound results.

We will consider problems from geometry of numbers and mirror symmetry in string theory and justification of conjectures about possible solutions of the problems.