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Functional moduli of jets of Riemannian metrics. (English. Russian original) Zbl 0920.58003
Funct. Anal. Appl. 31, No. 2, 119-125 (1997); translation from *Funkts. Anal. Prilozh.* 31, No. 2, 58-66 (1997).

Consider the jet (i.e., the Taylor series) of a Riemannian metric defined in a neighborhood of 0 in \mathbb{R}^n . Formal diffeomorphisms preserving the origin act in an obvious way on the set of such jets. The main result of the present paper is a normal form for these jets up to the action of the formal diffeomorphisms. For example, in two dimensions the normal form is

$$ds^2 = dx^2 + xy\varphi(x, y)dxdy + dy^2,$$

where φ is a formal power series in x and y .

Let a_k denote the dimension of the orbit space of k -jets of Riemannian metrics modulo formal diffeomorphisms. As an application of the above theorem, the author can show that the Poincaré series

$$p(t) = a_0 + \sum_{k=1}^{\infty} (a_k - a_{k-1})t^k$$

is a rational function.

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MSC:

[58A20](#) Jets in global analysis
[58D27](#) Moduli problems for differential geometric structures
[53B20](#) Local Riemannian geometry

Cited in 1 Review

Keywords:

[normal form](#); [Poincaré series](#); [jet](#); [Riemannian metric](#); [moduli space](#)

Full Text: [DOI](#)

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