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**Differential structure, tangent structure, and SDG.** (English) Zbl 1304.18031

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The principal aim in this paper is to connect the tangent structure of [*J. Rosický*, Diagrammes 12, JR 1–JR 11 (1984; Zbl 0561.18008)] to the differential structure of [*R. F. Blute et al.*, Theory Appl. Categ. 22, 622–672 (2009; Zbl 1262.18004)]. Here, Rosický's work is modified in several points so that bundles are commutative monoids rather than commutative groups. The adjointness between Cartesian differential categories and Cartesian tangent categories is established.

Reviewer: Hirokazu Nishimura (Tsukuba)

**MSC:**

18F15 Abstract manifolds and fiber bundles  
18A40 Adjoint functors  
18D10 Monoidal, symmetric monoidal and braided categories  
51K10 Synthetic differential geometry

Cited in **2** Reviews  
Cited in **15** Documents

**Keywords:**

tangent structure; Cartesian differential category; synthetic differential geometry

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