G-STRUCTURES OF SECOND ORDER DEFINED BY LINEAR OPERATORS SATISFYING ALGEBRAIC RELATIONS

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Abstract

The present work is based on a type of structures on a differential manifold V, called G-structures of the second kind, defined by endomorphism J on the second order tangent bundle $T^2(V)$. Our objective is to give conditions for a differential manifold to admit a real almost product and a generalised almost tangent structure of second order. The concepts of the second order frame bundle $H^2(V)$, its structural group L^2 and its associated tangent bundle of second order $T^2(V)$ of a differentiable manifold V, are used from the point of view that is described in papers [**5**] and [**6**]. Also, the almost tangent structure of order two is mentioned and its generalisation, the second order almost transverse structure, is defined.