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Transverse Lie jets and holomorphic geometric objects on transverse bundles

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Abstract

© 2016, Allerton Press, Inc. Two holomorphic fields of geometric objects on a transverse Weil bundle are called equivalent if there exists a holomorphic diffeomorphism of this bundle onto itself which induces the identity transformation of the base manifold and maps one of these fields into the other. In terms of transverse Lie jets, we establish necessary and sufficient conditions for a holomorphic field of geometric objects on a transverse Weil bundle to be equivalent to the prolongation of a field of foliated geometric objects given on the base manifold. As an example, we consider a holomorphic linear connection on a transverse bundle.

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Keywords

geometric object, Lie jet, transverse bundle, Weil algebra, Weil bundle