ABSTRACT

On the Full Holonomy of Lorentzian Manifolds with Essentially Parallel Weyl Tensor

We compute the full holonomy group of complete, compact Lorentzian manifolds with essentially parallel Weyl tensor (i. e. Lorentzian manifolds with parallel Weyl tensor which are neither conformally flat nor locally symmetric) in the case where the fundamental group is contained in a distinguished subgroup G of the isometry group of the universal cover. Moreover we characterize the identity component of the isometry group for this universal cover and show that G is up to a discrete factor contained in the latter being isomorphic to a semidirect product of a subgroup of $SO(n)$ with the Heisenberg group.

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