

On the geometry of the geodesic equation in the jet of 1-dimensional submanifolds

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Abstract

The geodesic equation \mathcal{G}_ρ in the jet of the trivial bundle $\rho: E \times \mathbb{R} \rightarrow \mathbb{R}$ and the geodesic equation \mathcal{G} in the jet of 1-dimensional submanifolds of E are taken into consideration. The equivalence of the higher approach to symmetries with the classical approach is proved, and a covering map between \mathcal{G}_ρ and \mathcal{G} is discovered. The variationality of \mathcal{G} is discussed.