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Title: On a class of generalized Berwald manifolds

Author(s): Akbar Tayebi and Faezeh Eslami

Let $F = \alpha\phi(s)$, $s := \beta/\alpha$, be a generalized Berwald (α, β)-metric on a 2-dimensional manifold. Suppose that F has vanishing S-curvature and $\phi'(0) \neq 0$. We show that if F is regular, then it is a locally Minkowskian metric. If F is an almost regular and non-locally Minkowskian metric, then we explicitly determine the function ϕ which results in generalized Berwald metrics not belonging to the classes of Berwald, Landsberg or Douglas metrics. Furthermore, we prove that a left-invariant Finsler metric on a 2-dimensional Lie group has vanishing S-curvature if and only if it is a Riemannian metric of constant Gaussian curvature. Finally, we construct a family of Randers-type generalized Berwald metrics on an arbitrary odd-dimensional manifold.

Address:
Akbar Tayebi
Department of Mathematics
Faculty of Science
University of Qom
Qom
Iran

Address:
Faezeh Eslami
Department of Mathematics
Faculty of Science
University of Qom
Qom
Iran