Elgendi, S. G.
On the problem of non-Berwaldian Landsberg spaces. (English) Zbl 1447.53023
Bull. Aust. Math. Soc. 102, No. 2, 331-341 (2020).

The existence of Landsberg spaces which are not Berwaldian is an old and well-known open problem in Finsler geometry.

The aim of the author’s paper is to construct some examples of ($\gamma$-local) Landsberg spaces which are not Berwaldian, using some convenient Finsler conformal transformations. In this way, using some geometrical properties produced by such conformal transformations, and using more computations with the Maple program and the Finsler package from [N. L. Youssef and S. G. Elgendi, Comput. Phys. Commun. 185, No. 3, 986–997 (2014; Zbl 1360.53006)], the author succeeds to construct some effective examples of ($\gamma$-local) non-Berwaldian Landsberg spaces, with nonvanishing $T$-tensor.

Reviewer: Mircea Neagu (Brasov)

MSC:
53B40 Local differential geometry of Finsler spaces and generalizations (areal metrics)

Keywords:
T-tensor; Landsberg space; Berwald space; conformal transformation; $S_3$-like space; $C_2$-like space; $C$-reducible space

Software:
Maple; Finsler

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