Title: On parallel transport in Finsler spaces

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I discuss the properties of parallel transport – that is, the generally nonlinear parallel transport defined by the Ehresmann connection, or horizontal distribution – in Finsler spaces. I explain its relationship to the Berwald (linear) connection. I derive a number of criteria in terms of parallel transport for a Finsler space to have some special property: starting of course with Ichijyō's long-established result that a Finsler space is a Landsberg space if and only if parallel transport is always an isometry of the fibre metric ([9], [10]); deriving conditions for a Finsler space to be Berwald, weakly Landsberg, or weakly Berwald; and ending with the new result that a Finsler space is a Landsberg space if and only if parallel transport is always a projective transformation of the Levi-Civita connection of the fibre metric.

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