

General Relativity and Quantum Cosmology

Isometric group of (α, β) -type Finsler space and the symmetry of Very Special Relativity

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(Submitted on 15 Jan 2010)

The Killing equation for a general Finsler space is set up. It is showed that the Killing equation of (α, β) space can be divided into two parts. One is the same with Killing equation of a Riemannian metric, another equation can be regarded as a constraint. The solutions of Killing equations present explicitly the isometric symmetry of Finsler space. We find that the isometric group of a special case of (α, β) space is the same with the symmetry of Very Special Relativity (VSR). The Killing vectors of Finsler-Funk space are given. Unlike Riemannian constant curvature space, the 4 dimensional Funk space with constant curvature just have 6 independent Killing vectors.

Subjects: **General Relativity and Quantum Cosmology (gr-qc)**; High Energy Physics - Theory (hep-th)

Cite as: [arXiv:1001.2667v1](#) [gr-qc]

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