

ABSTRACT

CONFORMAL VECTOR FIELDS WITH RESPECT TO THE SASAKI METRIC

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On the tangent bundle of a Riemannian manifold the most natural choice of metric tensor field is the Sasaki metric. This immediately brings up the question of infinitesimal symmetries associated with the inherent geometry of the tangent bundle arising from the Sasaki metric. The elucidation of the form and the classification of the Killing vector fields have already been effected by the Japanese school of Riemannian geometry in the sixties. In this thesis we shall take up the conformal vector fields of the Sasaki metric with the help of relatively advanced techniques.

Keywords: Sasaki metric tensor, Tangent Bundle, Killing vector fields, Conformal vector fields, Lifts of tensor fields.