

**INFINITESIMAL AFFINE TRANSFORMATIONS IN A TANGENT BUNDLE
OF A RIEMANNIAN MANIFOLD WITH AFFINE CONNECTION ${}^s\nabla = {}^c\nabla + {}^vH$**

KURŞAT AKBULUT & ARIF SALIMOV

ABSTRACT

The main purpose of the paper is first of all to study conditions for a vertical infinitesimal affine transformation with ${}^s\nabla = {}^c\nabla + {}^vH$ in the tangent bundle of a Riemannian manifold and then to apply the results to the study of fibre-preserving infinitesimal affine transformation with ${}^s\nabla$.

Keywords: Lift, tangent bundle, infinitesimal affine transformation, fibre-preserving transformation.

References

- Talantova N.V & Shirokov A.P. 1975. A note on a metric in the tangent bundle. *Izv. Vyssh. Uchebu. Zaved. Math.* 6: 143-146.
- Vishnevsky V.V., Shirokov A.P. & Shurygin V.V. 1985. *Spaces over algebras*, Kazan. 264 pp.
- Yano K. & Ishikara S. 1973. *Tangent and cotangent bundles.*, New York: Marcel Dekker.

School of Mathematical Sciences
Faculty of Art and Science
University of Atatürk
25240 Erzurum
TURKEY

E-mail: kakbulut@atauni.edu.tr , asalimov@atauni.edu.tr*