Conformal vector fields on vector bundle manifolds with spherically symmetric metrics

By MOHAMED TAHAR KADAOUI ABBASSI (Fez) and IBRAHIM LAKRINI (Fez)

Abstract. In this paper, we investigate conformal vector fields on vector bundle manifolds when endowed with *spherically symmetric metrics*. We construct a class of non-trivial conformal vector fields, and establish a classification theorem for conformal horizontal vector fields. Conformal gradient vector fields are investigated and closed vector fields are studied in detail. Finally, we focus on finding some examples of parallel vector fields as well as some of their classification results.

MOHAMED TAHAR KADAOUI ABBASSI &
IBRAHIM LAKRINI
LABORATORY OF ALGEBRA, GEOMETRY
AND ARITHMETIC
DEPARTMENT OF MATHEMATICS
FACULTY OF SCIENCES DHAR EL MAHRAZ
UNIVERSITY SIDI MOHAMED BEN ABDALLAH
B.P. 1796–ATLAS, FEZ
MOROCCO