

Two Theorems on Semi-Symmetric Metric Connections

Liviu NICOLESCU, Gabriel Teodor PRIPOAE
and Radu GOGU

June 15, 2004

Abstract - We study some properties of semi-symmetric metric connections ∇ on semi-Riemannian manifolds, relating with the transposed connection, the symmetric connection associated to ∇ and with the Levi-Civita connection.

We also give characterizations for two semi-symmetric metric connections in order to have the same curvature tensor fields or the same Ricci tensor fields. In this context, (algebraic) properties of some properly choosed deformation algebras are translated into geometric ones.

Key words and phrases : semi-symmetric metric connection, deformation algebra

Mathematics Subject Classification (2000) : 53B05, 53B15,