DUMITRU Dan, *Particular Cases of Special Robertson-Walker Multiply Warped Products with a Semi-Symmetric Connection*

Abstract

In this paper we study some particular cases of Einstein equations for special Robertson-Walker multiply warped products $M = I \times_{f_1} F_1 \times ... \times_{f_m} F_m$, *where* $I \subset \mathbb{R}$ *is an open interval,* $\dim I = 1$, $f_i : I \longrightarrow (0, \infty)$, $f_i \in \mathcal{C}^\infty(I)$, $\dim F_i = k_i \geq 1$ *for every* $i \in \{1, ..., m\}$, $m \geq 1$, *having an affine semi-symmetric connection. We compute the warping functions for* M *Ricci flat and equal warping functions and* M *Ricci flat and all the fibres having the dimensions equal to* 1.

Keywords: *Einstein space, multiply warped product, warping function, semi-symmetric connection.*

AMS Classification: 53C25, 53C50