**Anastasiei, M.**

**Cross-section submanifolds in vector bundles.** (English) Zbl 0790.53026

Szenthe, J. (ed.) et al., Differential geometry and its applications. Proceedings of a colloquium, held in Eger, Hungary, August 20-25, 1989, organized by the János Bolyai Mathematical Society. Amsterdam: North- Holland Publishing Company. Colloq. Math. Soc. János Bolyai. 56, 23-31 (1992).

Let $(E, \pi, M)$ be a vector bundle, $\pi(E) = M$, $\dim E = n + m$, $S : M \to E$ a $C^\infty$-section of $\pi$ and $B$ the tangent map $S^T$. Thus (1) $TE\,|_{S(M)} = B(TM) \oplus VE$ holds, $V$ being the vertical distribution on $E$. The author studies the embedding $S$ by using (1), when $E$ is endowed with some geometrical objects: (a) a nonlinear connection $N$; (b) $N$ and a linear $d$-connection $D$; (c) $N$, $D$ and a metrical structure $G$. For each of these cases the Gauss-Weingarten formulas and Gauss-Codazzi equations are studied, too.

For the entire collection see [Zbl 0764.00002].

Reviewer: R.Miron (Iaşi)

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53B99 Local differential geometry

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