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ON SUBMANIFOLDS OF A MANIFOLD ADMITTING $f_a(2\nu + 3, -1)$ - STRUCTURE

Jai Pratap Singh and Kripa Sindhu Prasad*

B. S. N. V. P. G. College, Lucknow, INDIA

E-mail : jaisinghjs@gmail.com

*Department of Mathematics,
Thakur Ram Multiple Campus,
Birgunj, Tribhuvan University, NEPAL

E-mail : kripasindhuchaudhary@gmail.com

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Abstract: Psomopoulou defined and studied the Invariant submanifolds of a manifold with $f(2\nu+3,-1)$-structure. In this paper $f_a(2\nu+3,-1)$ structure has been defined and submanifolds, of a manifold with such a structure have been studied. Some interesting results have been stated and proved in this paper.

Keywords and Phrases: Riemannian Manifold, projection operator, invariant submanifold, integrability conditions.

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1. Introduction and Preliminaries

Let V_n be an n-dimensional C^∞ manifold imbedded differentiabily in an m-dimensional C^∞ Riemannian manifold $W_m (m > n)$ by an imbedding map $b : V_n \to W_m$. If B=db, B is a mapping $T(V_n) \to T(W_m)$ such that a vector field X of $T(V_n)$ correspond to a vector field $BX \in T(W_m); T(V_n); T(W_m)$ denote the tangent bundles of V_n and W_m respectively. If $T(b(V_n))$ is the set of all vectors tangent to the submanifold $b(V_n)$ then $B : T(V_n) \to T(b(V_n))$ is an isomorphism. Let $\tilde{X}, \tilde{Y}$ be C^∞ vector fields, defined along $b(V_n)$ tangent to $b(V_n)$ and let $\tilde{X}$ and $\tilde{Y}$