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# SUBMANIFOLDS OF F-STRUCTURE MANIFOLD SATISFYING $F^K + (-)^{K+1}F = 0$

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Abstract. Invariant submanifolds have been studied by Blair, Ludden, Yano, Kubo, Yano and Okumura, and among others. Yano and Ishihara have studied and shown that any invariant submanifold of codimension 2 in a contact Riemannian manifold is also a contact Riemannian manifold. The purpose of this paper is to study invariant submanifolds of an $n$-dimensional manifold $M$ endowed with a $F$-structure satisfying $F^K + (-)^{K+1}F = 0$ and $F^W + (-)^{W+1}F \neq 0$ for $1 < W < K$, where $K$ is a fixed positive integer greater than 2. The case when $K$ is odd ($\geq 3$) has been considered in this paper. In the first part of the paper we have shown that an invariant submanifold $\widetilde{M}$ embedded in an $F$-structure manifold $M$ in such a way that the complementary distribution $D_m$ is never tangential to the invariant submanifold $\Psi(\tilde{M})$, is an almost complex manifold with the induced $\widetilde{F}$-structure. In the later part of the paper some theorems regarding the integrability conditions of induced $\widetilde{F}$-structure have been proved.

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