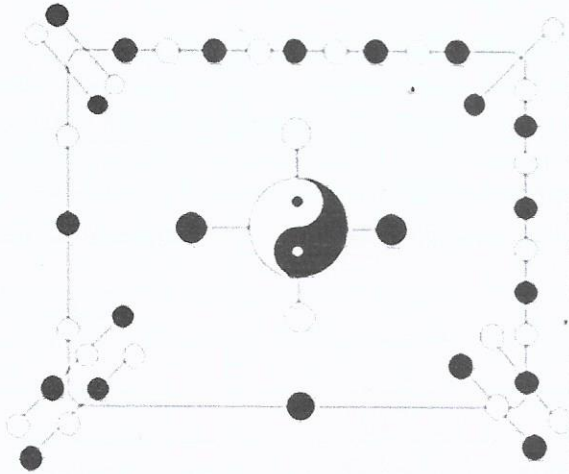




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On Hemi-Slant Submanifold of Kenmotsu Manifold

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Abstract: We present here a brief analysis on some properties of hemi-slant submanifold of Kenmotsu manifold. After the introduction some preliminaries about this manifold have been discussed. Necessary and sufficient condition for distributions to be integrable are worked out. Some important results have been obtained in this direction. The last section emphasizes the geometry of leaves of hemi-slant submanifold of Kenmotsu manifold.

Key Words: Kenmotsu manifold, hemi-slant submanifold, integrability, leaves of distribution.

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§1. Introduction

The notion of Kenmotsu manifold was defined by K. Kenmotsu in 1972 [9]. Then several works have been done on Kenmotsu manifold by G.Pitis [20] in 1988; J.B.Jun, U.C.De and G.Pathak [8] in 2005; C.S. Bagewadi and Venkatesha in 2007.

An interesting topic in the differential geometry is the theory of submanifolds in space endowed with additional structures [4], [5]. B.Y.Chen in 1990 initiated the study of slant manifold of an almost Hermitian manifold as a natural generalization of both holomorphic and totally real submanifolds. N.Papaghiuc have studied semi-invariant submanifolds in a Kenmotsu manifold [17], [18]. He also studied the geometry of leaves on a semi-invariant ξ^\perp -submanifolds in a Kenmotsu manifolds [18]. Afterwords in 1994, N.Papaghiuc introduced a class of submanifolds in an almost Hermitian manifold, called the semi-slant submanifolds, which includes the class of proper CR-submanifolds and slant submanifolds. Then in 1996, A. Lotta extended the notion of slant immersions in the setting of almost contact metric manifold. Later slant submanifolds of K-contact and Sasakian manifolds have been characterized by Cabrerizo, Carriazo and Fernandez in some papers (1999-2002).

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