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Sem. & Year of Admission: IInd, 1998-99

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Degree: Ph. D.

Major: Mathematics Minor: Computer Science

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Thesis Title: "ON SUBMANIFOLDS AND HYPERSURFACES OF HYPERBOLIC HERMITIAN MANIFOLDS"

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ABSTRACT

CR-submanifold of an almost contact metric manifold studied by Yano and Kon. Semi-invariant submanifold defined and studied by Bejancu and Papaghuic. Dube studied almost hyperbolic Hermitian manifold.

The present work is also a step forward in the same direction. Present work consists of 5 sections. Section 1 is divided into two subsections 1(A) and 1(B) in which we studied CR-submanifolds of a trans para Sasakian manifold and CR-submanifolds of a nearly and closely para cosymplectic manifolds respectively and obtained some interesting results. Section 2 is divided into two subsections 2(A) and 2(B). In section 2(A) and 2(B) we studied semi-invariant submanifolds of a nearly r-Sasakian manifold and semi-invariant submanifolds of r-Kenmotsu manifold respectively and find some important results. Section 3 is divided into two subsections 3(A) and 3(B) in which we studied CRsubmanifolds of a trans hyperbolic Sasakian manifold and find some results. Section 4 is divided into two subsections 4(A) and 4(B). In section 4(A) and 4(B) we studied semi-invariant submanifolds of para Kenmotsu manifolds and find some conditions for integrability and parallelness of the distributions, Section 5 is devoted to the study of hypersurfaces of almost hyperbolic Hermitian manifolds and defined hyperbolic Cosymplectic, nearly hyperbolic Cosymplectic manifold etc.

(Dr. K.K. Dube)

Advisor

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Authoress