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Abstract: In this paper, relation between curvature tensors of Levi-Civita connection and Zamkovoy connection on para-Kenmotsu manifolds have been obtained.Quasi M-projectively flat, M-projectively flat and ϕ-M-projectively flat para-Kenmotsu manifolds admitting Zamkovoy connection have been studied. Also, para-Kenmotsu manifolds admitting Zamkovoy connection satisfying $\bar{M}(\xi, U).\bar{R} = 0$ and $\bar{M}(\xi, U).\bar{S} = 0$ have been developed.

Keywords and Phrases: Para-Kenmotsu manifold, M-projective curvature tensor, Zamkovoy connection, Quasi M-projectively flat, $\phi-$ M-projectively flat, Bianchi's identity.

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1. Introduction

In 2008, the notion of Zamkovoy connection was introduced by S. Zamkovoy [21] for paracontact manifold. Also this is known as canonical paracontact connection whose torsion is the obstruction of paracontact manifold to be para-Sasakihian

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manifold. For an n-dimensional almost contact metric manifold M^n consisting of $(1,1)$ tensor field ϕ, a 1-form η, a vector field ξ and a Riemannian metric g endowed with an almost contact metric structure (ϕ, ξ, η, g). Zamkovoy connection is defined by

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