

CHARACTERIZATION OF GENERALIZED RICCI-TYPE SOLITONS ON LORENTZIAN PARA-KENMOTSU MANIFOLDS

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Abstract. This paper investigates generalized Ricci-type solitons on LP-Kenmotsu manifolds. Specifically, we demonstrate that an LP-Kenmotsu manifold attains Einstein status when its metric conforms to a generalized Ricci-type soliton. Additionally, we establish that an LP-Kenmotsu manifold exhibits Einstein-like characteristics when its metric aligns with a generalized gradient Ricci-type almost soliton (or generalized Ricci-type almost soliton where the soliton vector field is parallel to the characteristic vector field).

Keywords. LP-Kenmotsu manifolds; Generalized Ricci-type solitons; Einstein manifolds.

AMS (MOS) subject classification: 53C25; 53C44; 53C21.

1 Introduction

Ricci solitons represent a fascinating class of geometric structures that have attracted considerable attention in differential geometry and related fields. These solitons provide valuable insights into the behavior of Riemannian and pseudo-Riemannian manifolds under certain curvature conditions, shedding

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