Title: The critical point equation on Kenmotsu and almost Kenmotsu manifolds

Author(s): Dhriti Sundar Patra, Amalendu Ghosh and Arindam Bhattacharyya

In this paper, we study the critical point equation (shortly, CPE) within the framework of Kenmotsu and almost Kenmotsu manifolds. First, we prove that a complete Kenmotsu metric satisfying the CPE is Einstein and locally isometric to the hyperbolic space $\mathbb{H}^{2n+1}$. In the case of Kenmotsu manifolds, it is possible to determine the potential function explicitly (locally). We also provide some examples of Kenmotsu and almost Kenmotsu manifolds that satisfy the CPE.

Address:
Dhriti Sundar Patra
Department of Mathematics
Birla Institute of Technology Mesra
Ranchi: 835215, Jharkhand
India

Address:
Amalendu Ghosh
Department of Mathematics
Chandernagore College
Hooghly: 712 136 (W.B.)
India

Address:
Arindam Bhattacharyya
Department of Mathematics
Jadavpur University
188. Raja S. C. Mullick Road
Kolkata:700 032
India