Publ. Math. Debrecen 107/1-2 (2025), 115–138 DOI: 10.5486/PMD.2025.9966

Meromorphic mappings on Kähler manifolds weakly sharing hyperplanes in $\mathbb{P}^n(\mathbb{C})$

By SI DUC QUANG (Hanoi)

Abstract. In this paper, we study the uniqueness problem for linearly nondegenerate meromorphic mappings from a Kähler manifold into $\mathbb{P}^n(\mathbb{C})$ satisfying a condition (C_ρ) and sharing hyperplanes in general position. In our results, the condition that two meromorphic mappings f, g have the same inverse image for some hyperplanes H is replaced by a weaker one that $f^{-1}(H) \subseteq g^{-1}(H)$. Moreover, we also give some improvements on the uniqueness problem and the algebraic dependence problem of meromorphic mappings which share hyperplanes and satisfy (C_ρ) conditions for different non-negative numbers ρ .

SI DUC QUANG
DEPARTMENT OF MATHEMATICS
HANOI NATIONAL UNIVERSITY
OF EDUCATION
AND
INSTITUTE OF NATURAL SCIENCES
HANOI NATIONAL UNIVERSITY
OF EDUCATION
136-XUAN THUY, CAU GIAY, HANOI
VIETNAM

 $Mathematics\ Subject\ Classification:\ 32 H 30,\ 32 A 22,\ 30 D 35.$

 $Key\ words\ and\ phrases:$ Kähler manifold, uniqueness theorem, meromorphic mapping, hyperplane.