Inayama, Takahiro
Nakano positivity of singular Hermitian metrics and vanishing theorems of Demailly-Nadel-Nakano type. (English) [Zbl 07465538]
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Summary: In this article, we propose a definition of Nakano semi-positivity of singular Hermitian metrics on holomorphic vector bundles. By using this positivity notion, we establish $L^2$-estimates for holomorphic vector bundles with Nakano positive singular Hermitian metrics. We show vanishing theorems which generalize both Nakano type and Demailly-Nadel type vanishing theorems. As applications, we specifically construct globally Nakano semi-positive singular Hermitian metrics for several bundles and prove vanishing theorems associated with them.

MSC:
32L20 Vanishing theorems
32U05 Plurisubharmonic functions and generalizations
14F17 Vanishing theorems in algebraic geometry
14F18 Multiplier ideals

Keywords:
singular Hermitian metric; Nakano positivity; cohomology vanishing

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