

Ohno, Masahiro

On nef values of determinants of ample vector bundles. (English) Zbl 0954.14006
RIMS Kokyuroku 1078, 75-85 (1999).

Let (M, L) be a polarised projective manifold of dimension n . Then the nef value $\tau(M, L)$ is defined as the infimum of t , such that $K_M + tL$ is nef. The author proves that under certain conditions on $\tau(M, \det E)$ for a rank r ample vector bundle on M , the manifold is very special. Here is a sample result:

$\tau(M, \det E) \leq (n + 1)/r$ and equality holds if and only if $(M, E) \cong (\mathbb{P}^n, \mathcal{O}(1)^{\oplus r})$.

Similar results have been obtained in lesser generality by various authors [e.g. *Y.-G. Ye* and *Q. Zhang*, *Duke Math. J.* 60, No. 3, 671-687 (1990; [Zbl 0709.14011](#)) and *T. Peternell*, *Math. Z.* 205, No. 3, 487-490 (1990; [Zbl 0726.14034](#))].

Reviewer: [N.Mohan Kumar \(St.Louis\)](#)

MSC:

- [14C20](#) Divisors, linear systems, invertible sheaves
- [14F05](#) Sheaves, derived categories of sheaves, etc. (MSC2010)
- [14M12](#) Determinantal varieties
- [14N05](#) Projective techniques in algebraic geometry
- [14J60](#) Vector bundles on surfaces and higher-dimensional varieties, and their moduli

Cited in 1 Review Cited in 1 Document
--

Keywords:

ample vector bundles; nef value; polarised projective manifold; nef line bundle