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Abstracts of Short Communications and Posters

Section:

4. Algebraic Geometry

1991 MS Classification: 14J40, 14E30, 14J10, 14J60
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On nef values of determinants of ample vector bundles.
Let M be an n-dimensional projective manifold over the complex number field and $\mathcal{E}$ an ample vector bundle on M. The nefness of the adjoint bundle $K_M + \det \mathcal{E}$ has been studied by several authors for $r \geq n-2$. In this talk, we study the nef value τ of the polarized manifold $(M, \det \mathcal{E})$ for $r \leq n+1$. We show that $\tau \leq (n+1)/r$ if $r \leq n+1$, and classify the pair $(M, \mathcal{E})$ in the following cases: (1) $\tau = (n+1)/r$ and $r \leq n+1$, (2) $n/r \leq \tau$ and $r \leq n$, (3) $(n-1)/r < \tau < n/r$ and $r \leq n-1$. These results genelarize the theorems concerning the nefness of the adjoint bundles previously obtained by Y. -G. Ye and Q. Zhang, T. Fujita, and T. Peternell.