

Semi-negative bundles and the Shafarevich conjecture

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Abstract

The speaker and F. Bogomolov developed an approach to the production of holomorphic functions on universal covers \tilde{X} of projective varieties X . This approach uses negative vector bundles V on X having a nontrivial cocycle $\alpha \in H^1(X, V)$ such that $\rho^*\alpha = 0$, $\rho : \tilde{X} \rightarrow X$. In this talk the speaker will describe the applications to the Shafarevich conjecture of the above approach using semi-negative vector bundles. The speaker will also describe how some properties of the algebra of holomorphic functions on \tilde{X} are reflected in properties of $\rho^* : Vect(X) \rightarrow Vect(\tilde{X})$, the pullback map for isomorphism classes of vector bundles.