

A class of holomorphic vector bundles on two-dimensional tori

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32L05 Holomorphic bundles and generalizations

32J15 Compact surfaces

Abstract

The existence problem for holomorphic vector bundles over non-algebraic complex surfaces is in general open. Filtrable holomorphic vector bundles (i.e. those admitting a filtration by coherent subsheaves in every rank) have been classified. In this paper a class of holomorphic vector bundles is constructed which cannot be obtained by deformation of filtrable structures. This shows that the existence problem for holomorphic vector bundles cannot be solved by constructing filtrable vector bundles only.

Keywords: *holomorphic vector bundle, compact complex surface, non-filtrable vector bundle*

Notes

The result was announced in "Une classe de fibres vectoriels sur les 2-tores complexes", C. R. Acad. Sci. Paris 311 (1990), 257-258.