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Chern classes in precobordism theories. (English) Zbl 07683514

Summary: We construct Chern classes of vector bundles in the universal precobordism theory of Annala-Yokura over an arbitrary Noetherian base ring of finite Krull dimension. As an immediate corollary, we show that the Grothendieck ring of vector bundles can be recovered from the universal precobordism ring, and that we can construct candidates for Chow rings satisfying an analogue of the classical Grothendieck-Riemann-Roch theorem. We also strengthen the weak projective bundle formula of Annala-Yokura to the case of arbitrary projective bundles.

MSC:
14C17 Intersection theory, characteristic classes, intersection multiplicities in algebraic geometry
14C40 Riemann-Roch theorems
19E08 K-theory of schemes

Keywords:
algebraic cobordism; derived algebraic geometry; Chern classes; projective bundle formula

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References:

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