

Vector bundles on symmetric product of a curve

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Abstract. Let X be an irreducible smooth projective curve defined over \mathbb{C} . Fix any integer $n \geq 2$. There is a tautological hypersurface $\Delta \in X \times S^n(X)$, where $S^n(X)$ is the symmetric product. Given any vector bundle E over X , let $\mathcal{F}(E)$ be the vector bundle on $S^n(X)$ obtained by taking the direct image of the pullback of E to Δ . Let E and F be semi-stable vector bundles over X such that $\mu(E), \mu(F) > n - 1$. If $\mathcal{F}(E)$ is isomorphic to $\mathcal{F}(F)$, then we prove that E is isomorphic to F .

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