Mathematics > Algebraic Geometry

On the behaviour of strong semistability in geometric deformations

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Let $Y \to B$ be a relative smooth projective curve over an affine integral base scheme B of positive characteristic. We provide for all prime characteristics example classes of vector bundles $\mathcal{S}$ over Y such that $\mathcal{S}$ is generically strongly semistable and semistable but not strongly semistable for some special fibre. This also provides new examples of the behaviour of Hilbert-Kunz multiplicities in geometric families.

Comments:	12 pages, v2: extended results and fixed several typos, v3: fixed typos, improved exposition, 1 new example, v4: Added some references, improvements in exposition
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