Ann. Scuola Norm. Sup. Pisa Cl. Sci. (5)
Vol. IX (2010), 503-522

On the stability of the universal quotient bundle restricted to congruences of low degree of $\mathbb{G}(1,3)$

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Abstract. We study the semistability of $Q|_S$, the universal quotient bundle on $\mathbb{G}(1,3)$ restricted to any smooth surface S (called congruence). Specifically, we deduce geometric conditions for a congruence S, depending on the slope of a saturated linear subsheaf of $Q|_S$. Moreover, we check that the Dolgachev-Reider Conjecture (*i.e.* the semistability of $Q|_S$ for nondegenerate congruences S) is true for all the congruences of degree less than or equal to 10. Also, when the degree of a congruence S is less than or equal to 9, we compute the highest slope reached by the linear subsheaves of $Q|_S$.

Mathematics Subject Classification (2010): 14J60 (primary); 14M07, 14M15 (secondary).