1106-14-1983 **Nathaniel Bushek*** (bushek@unc.edu), Department of Mathematics, UNC-Chapel Hill, CB # 3250, Phillips Hall, Chapel Hill, NC 27599. *Descent of line bundles to the GIT quotients $(G/B \times G/B \times G/B)//G$.*

Let G be a simple, connected, algebraic group over $\mathbb{C}$, B a Borel subgroup, and $T \subset B$ a maximal torus. Let Q be the root lattice, Λ the weight lattice, and d the least common multiple of the coefficients of the highest root θ of $\mathfrak{g}$ written in terms of the simple roots. Consider the diagonal action of G on the projective variety $X = G/B \times G/B \times G/B$. Then, for any triple (λ, μ, ν) of dominant integral weights there is a G-linearized line bundle $\mathcal{L}$ on X. Such a line bundle is said to descend to the GIT quotient $\pi : X(\mathcal{L})^{ss} \to X(\mathcal{L})//G$ if there exists a line bundle $\hat{\mathcal{L}}$ on $X(\mathcal{L})//G$ such that $\mathcal{L}\mid_{X(\mathcal{L})^{ss}} \cong \pi^*\hat{\mathcal{L}}$. We show $\mathcal{L}$ descends if $\mu, \nu \in d\Lambda$ and $\lambda + \mu + \nu \in dQ$. These conditions are useful in describing how the tensor product multiplicity $\dim[V(\lambda) \otimes V(\mu) \otimes V(\nu)]^G$ varies with respect to the triple (λ, μ, ν). (Received September 15, 2014)