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1000-14-36 **Quang Minh Nguyen*** (ngminh@umich.edu), University of Michigan, Department of Mathematics, 525 East University Ave, Ann Arbor, MI 48109-1109. *Dualities and Classical Geometry of the Moduli Space of Vector Bundles of Rank 3.*

Let X be a curve of genus 2. We denote by $\mathcal{SU}_X(3)$ the moduli space of semi-stable vector bundles of rank 3 and trivial determinant on X , and by $J^d(X)$ the variety of line bundles of degree d on X . In particular, $J^1(X)$ has a canonical theta divisor Θ . The space $\mathcal{SU}_X(3)$ is a double cover of $\mathbf{P}^8 = |3\Theta|$ branched along a sextic hypersurface, the Coble sextic. In the dual $\check{\mathbf{P}}^8 = |3\Theta|^*$, where $J^1(X)$ is embedded, there is a unique cubic hypersurface singular exactly along $J^1(1)$, the Coble cubic. We prove that these two hypersurfaces are dual. Moreover, by looking at some special linear sections of these hypersurfaces, we can observe some classical algebraic geometry: the duality of the Segre-Igusa quartic with the Segre cubic, the birational realization of the Kummer surface as the Weddle quartic, the symmetric configuration of 15 lines and 15 points. And this allows us to give a “vector bundle” description of this classical geometry. (Received August 02, 2004)