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Graciela A. Reyes-Ahumada* (grace@matmor.unam.mx), Centro de Ciencias Matematicas UNAM, campus Morelia, 58190 Morelia, Mexico. *On globally generated and very ample rank two vector bundles with canonical determinant.* Preliminary report.

Let C be a smooth curve of genus g and denote $U(n, L)$ the moduli space of stable vector bundles of rank n and determinant $L \in \text{Pic}(C)$. Denote K_C the canonical bundle on C and let $B(2, K_C, r) \subset U(2, K_C)$ be the Brill-Noether loci consisting of vector bundles with at least r independent sections.

The expected dimension of $B(2, K_C, r)$ is given by the Brill-Noether number $\rho = 3g - 3 - \binom{r+1}{2}$. For a generic curve of genus g sufficiently large is proved that $B(2, K_C, r)$ is not empty and has a component of the expected dimension ρ .

We show that for small values of r exists a g_0 such that for a generic curve C of genus $g \geq g_0$, $B(2, K_C, r)$ has a component of dimension ρ where the general element is globally generated. We construct for small values of r a closed $U \in B(2, K_C, r)$ with general element very ample. (Received May 13, 2013)