1037-14-23   **Rebecca C Lehman*** (`rlehman@tulane.edu`), Department of Mathematics, Gibson Hall 412, 6823 St. Charles Ave, New Orleans, LA 70118. *Brill-Noether-type Theorems on the Existence of Line Bundles with Specified Ramification at a Movable Point.*

The classical Brill-Noether theorems count the dimension of the family of maps from a general curve of genus g to non-degenerate curves of degree d in projective space $\mathbb{P}^r$. These theorems can be extended to include ramification conditions at fixed general points. We ask the more general question whether there exists any point on the curve at which there is a map to $\mathbb{P}^r$ satisfying a given ramification condition.

By identifying the preimage of the locus of such points as a degeneracy locus of a map of filtered vector bundles over a Grassmannian, we can prove existence in dimension $r = 1$, and in higher dimensions we can provide an explicit formula for the class as a determinant in certain Schubert classes. Special cases include the $g(g+1)(g-1)$ Weierstrass points of the canonical section and Schubert's results on simple n-fold cusps. We also present some transversality results in low dimensions. (Received December 10, 2007)