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Erik Lee Carlsson*, 111 College rd. apt. 1A, Selden, NY 11784. *K-theory of moduli spaces of sheaves and large grassmannians.*

I'll present a surprising new formula that characterizes the equivariant pushforward of a bundle on $M_{r,n}$ built by applying Schur functors to the tautological bundle. The proof proceeds from thinking of $M_{r,n}$ as a class in the K -theory of a large Grassmannian manifold in analogy with the construction of the Hilbert scheme, which is a completely different approach from several papers leading up to it. We find that some elements from Haiman theory surface, such as the Macdonald inner-product on symmetric polynomials, and some "plethystic" vertex operators. If time permits, I'll explain the intended applications to Nekrasov's partition function, and four-dimensional gauge theory. (Received February 14, 2012)