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Hirotschi Abo* (abo@uidaho.edu), 300 Brink Hall, P.O. Box 441103, Moscow, ID 83844-1103, and **Chris Peterson** (peterson@math.colostate.edu), 101 Weber Building, Department of Mathematics, Colorado State University, Fort Collins, CO 80523-1874. *Implementation of Kumar's correspondence.*

In 1997, N.M. Kumar published a paper which introduced a new tool of use in the construction of algebraic vector bundles. Given a vector bundle on projective n -space, a well known theorem of Quillen-Suslin guarantees the existence of sections which generate the bundle on the complement of a hyperplane in projective n -space. Kumar used this fact to give a correspondence between vector bundles on projective n -space and vector bundles on projective $(n - 1)$ -space satisfying certain conditions. He then applied this correspondence to establish the existence of many, previously unknown, rank two bundles on projective fourspace in positive characteristic. The goal of this talk is to give an explicit homological description of Kumar's correspondence in a setting appropriate for implementation in a computer algebra system. (Received August 26, 2011)