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Characteristic maps for the Brauer algebra.

The classical characteristic map associates symmetric functions to characters of the symmetric groups. There are two natural analogues of this map involving the Brauer algebra. The first of them relies on the action of the orthogonal or symplectic group on a space of tensors, while the second is provided by the action of this group on the symmetric algebra of the corresponding Lie algebra. We consider the second characteristic map both in the orthogonal and symplectic case, and calculate the images of central idempotents of the Brauer algebra in terms of the Schur polynomials. This is joint work with A. Molev (Received December 15, 2011)