Generalized Joseph's decompositions

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Abstract:
In 1999 Anthony Joseph introduced a remarkable decomposition of (the locally finite part of) quantized enveloping algebras $U_q(g)$. The goal of my talk (based on joint work with J. Greenstein) is to generalize this decomposition to a larger class of Hopf algebras by explicitly using the (generalized) Peter-Weyl theorem for their Hopf duals. In the case when $g$ is semisimple, our approach allows for constructing a natural basis in the center of $U_q(g)$ whose elements behave as characters of finite-dimensional simple $g$-modules, i.e., as Schur polynomials.