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John E. Foster* (john.foster@wallawalla.edu), Walla Walla University, 204 S College Ave,
College Place, WA 99324. *Tame Representations of the Quantum Double.*

We will show that a good place to find representations of the quantum double $D(H)$ of a Hopf algebra H is in the $D(H)$ -bimodule algebra $H \otimes C$, where C is dually paired to H . In the case $H = U_q(\mathfrak{sl}_2)$, where q is generic, a careful study of highest-weight bivectors shows that the locally finite part of $H \otimes C$ has a Peter-Weyl decomposition. We will see in this case that the algebra of highest-weight bivectors is of polynomial growth. (Received September 18, 2015)