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Robert G Underwood* (runderwood@fsu.edu). *Hopf-Galois module structure of graded rings*. Preliminary report.

Let H be an R -Hopf algebra, and let S be a Galois H -extension of R where S is a graded ring. Let \mathcal{F} be a coherent G -sheaf on $X = \text{Proj } S$. We discuss the structure of $\bigoplus_{n \geq 0} \Gamma(X, \mathcal{F}(n))$ as an H -module. (Received February 09, 2009)