1012-16-159   **Hans Erik Nordstrom*** (`nordstro@up.edu`), Department of Mathematics, University of Portland, 5000 N. Willamette BLVD, Portland, OR 97203-5798. *Associated primes over generalized Weyl rings.*

Over an arbitrary base ring, R, we compute several types of prime ideals of the generalized Weyl ring $A = R[d, u, \sigma, q]$. These primes can be realized, for some R-module M, as the annihilators of prime submodules of the induced A-module $M \otimes A$. Since A embeds into skew-Laurent extensions, some of these primes are closely related to primes found in our previous work on associated skew-Laurent extensions. Our results include specialization to Noetherian base rings, when these prime ideals of A can be construced from prime ideals of R. As a foundation, we will discuss our result asserting that associated primes of $\mathbb{Z}$-graded modules over $\mathbb{Z}$-graded rings are homogenous ideals. (Received September 19, 2005)