

1032-14-62

Daniel Daigle and **Gene Freudenburg*** (`gene.freudenburg@wmich.edu`), Department of Mathematics, Western Michigan University, Kalamazoo, MI 49008-5248. *Families of Affine Fibrations*.

We give a method of constructing affine fibrations for polynomial rings. The method uses: **Proposition.** *Let k be a field and $B = k[x, y_1, \dots, y_r, z_1, \dots, z_m]$ a polynomial ring in $r + m + 1$ variables. Let $v_1, \dots, v_m \in B$ be such that $B_x = k[x, y_1, \dots, y_r, v_1, \dots, v_m]$. Given $\phi_1, \dots, \phi_r \in k[x, v_1, \dots, v_m]$ set $A = k[x, f_1, \dots, f_r]$, where $f_i = y_i + x\phi_i$. Then B is an \mathbf{A}^m -fibration over A . This result is used to construct the examples of \mathbf{A}^2 -fibrations in dimension 4 due to Bhatwadekar and Dutta (1994) and Vénéreau (2001). The theory also provides an elegant way to prove many of the known results for these examples. (Received August 07, 2007)*