1068-13-97 **Andrew R. Kustin*** (`kustin@math.sc.edu`). *The Generic Hilbert-Burch matrix.*

Let X be the set of 3×2 matrices whose entries are homogeneous forms of degree c in the polynomial ring $k[x, y]$ and let Y be the set of 3×1 matrices whose entries are homogeneous forms of degree $2c$. Notice that X may be identified with an ordinary affine space of dimension $6c + 6$ and Y may be identified with an ordinary affine space of dimension $6c + 3$. The function $\Phi : X \to Y$, which is given by taking the three 2×2 minors, induces a polynomial function from $6c + 6$ space to $6c + 3$ space. We ask "Does there exist a **polynomial** section of Φ?" That is, does there exist a dense open subset U of the image of Φ, an open cover $\{U_i\}$ of U, and **polynomial** functions $\sigma_i : U_i \to X$, so that $\Phi \circ \sigma_i$ is the identity function on U_i, for each i? (Received January 14, 2011)