1073-13-237 **J. Brett Barwick*** (barwicjb@mailbox.sc.edu). *Generic Hilbert-Burch matrices of ideals generated by triples of homogeneous forms in $k[x,y]$.* Preliminary report.

Consider the set of triples of homogeneous degree d forms $\boldsymbol{g} = (g_1, g_2, g_3)$ in $R = k[x,y]$, with k a field, so that the ideal I generated by the g_i's has height 2. This set naturally corresponds to an affine space of dimension $3d+3$ over k by identifying each triple $\boldsymbol{g}$ with a list of its coefficients. The Hilbert-Burch Theorem describes the graded minimal free resolution of R/I, which has the form

$$0 \to \begin{array}{c} R(-d-m) \\ \bigoplus \\ R(-d-n) \end{array} \xrightarrow{\varphi} R(-d)^3 \to R \to R/I \to 0$$

where the entries in the columns of a matrix representing φ are homogeneous forms in R of degrees m and n with $m+n=d$. We refer to such a matrix as a Hilbert-Burch matrix for I. Recent work of Cox-Kustin-Polini-Ulrich considers this set in the case when d is even and $m=n=d/2$, and identifies an open cover $\{U_i\}$ of $\mathbb{A}_k^{3d+3}$ such that on each U_i the coefficients of the entries of a Hilbert-Burch matrix for I can be recovered explicitly as polynomials in the coefficients of the g_i's. We describe an extension of this work to all integers $d \geq 2$ and all $1 \leq m \leq n \leq d$ with $m+n=d$. (Received August 02, 2011)