1067-47-352   **Gelu F Popescu*** (`gelu.popescu@utsa.edu`), Department of Mathematics, The University of Texas at San Antonio, One UTSA Circle, San Antonio, TX 78249. *Joint Similarity to Operators in Noncommutative Varieties.*

We present several results on the joint similarity to n-tuples of operators in noncommutative varieties $\mathcal{V}_\mathcal{P} \subset B(\mathcal{H})^n$, where $\mathcal{P}$ is a set of noncommutative polynomials in n indeterminates and $B(\mathcal{H})$ is the algebra of all bounded linear operators on a Hilbert space $\mathcal{H}$. Several classical results concerning the similarity to contractions have analogues in our noncommutative multivariable setting. When $\mathcal{P}$ consists of the commutators $X_i X_j - X_j X_i$, $i, j \in \{1, \ldots, n\}$, we obtain commutative versions of these results. (Received August 26, 2010)