1135-62-2006 **Ziwei, ZM Ma*** (ziweima@nmsu.edu) and **Tonghui, TW Wang** (twang@nmsu.edu). *Inferences on the location parameter under multivariate skew normal settings.*

For the multivariate skew normal random matrix Y with location parameter $\mathbf{1}_n \otimes \boldsymbol{\mu}'$, scale parameter $V \otimes \Sigma$, and skewness parameter $\mathbf{1}_n \otimes \boldsymbol{\alpha}'$, $Y \sim SN_{n\times p}\left(1_n \otimes \boldsymbol{\mu}', V \otimes \Sigma, 1_n \otimes \boldsymbol{\alpha}'\right)$. The distribution of sample covariance matrix is derived, and the generalized Hotelling and its properties T^2 are discussed. Based on these results, the inferences on location parameter $\boldsymbol{\mu}$ with unknown Σ are studied. Examples on real data set and simulated data sets are given for illustration of our results. (Received September 25, 2017)