1176-18-368 **Michael DeBellevue*** (`michael.debellevue@huskers.unl.edu`), 431 E st., Lincoln, NE 68508.
Rigidity of Graded Deviations and the Slope of an Algebra. Preliminary report.

The graded deviations $\varepsilon_{ij}(R)$ of a graded ring R are numerical invariants measuring the growth of the resolution of the residue field of R. Their values reflect certain ring-theoretic properties of R. In particular, vanishing of off-diagonal deviations $\varepsilon_{ij}(R)$ for $j > i$ is related to the Koszul property. In the classical ungraded case, deviations are known to be *rigid* in the sense that if $\varepsilon_i(R)$ for $i \gg 0$, then $\varepsilon_i(R) = 0$ for $i \geq 3$ and R is a complete intersection. We present some preliminary results in support of a similar statement for off-diagonal deviations. Some consequences for other numerical invariants, such as the slope of an algebra, will also be discussed. (Received January 26, 2022)