1114-13-161   **Hamid Seyed Hassanzadeh*** (`hamid@math.utah.edu`), UT 84102, and **Jose Naeliton**.
Annihilator of Koszul Homologies.

Despite a long history of Koszul complex, still there exist many mysterious and unknown facts about its structure, for examples ANNIHILATORS OF ITS HOMOLOGIES!. In this talk we reveal some connections between Koszul annihilators and RESIDUAL INTERSECTION. After introducing the concepts, we show how SLIDING DEPTH CONDITIONS provide non-trivial annihilators for Koszul homologies. To this end, we present a family of approximation complexes for residual intersctions. The main theorem we'll discuss is the following

   Theorem Let $(R, \mathfrak{m})$ be a CM local ring of dimension d, I satisfy Sliding Depth, and depth $(R/I) \geq d - s$. Let $J = (\mathfrak{a} : I)$ be an s-residual intersection and use $H_j(\mathfrak{a})$ to denote the j'th Koszul homology module with respect to a minimal generating set of $\mathfrak{a}$. Then

$$I \subseteq \bigcap_{j \geq 1} \mathrm{Ann}(H_j(\mathfrak{a})).$$

   Surprisingly, this result contradicts one of the old (unpublished) results of G. Levin. (Received August 24, 2015)

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