

1059-13-185

T. Clark and **A. Tchernev*** (tchernev@math.albany.edu). *CW-posets and resolutions of monomial ideals*. Preliminary report.

We show that a monomial ideal has a minimal resolution supported on a given regular CW-complex precisely when its minimal resolution can be obtained by applying the so-called poset resolution construction to the underlying poset of cells of the CW-complex. Since posets of cells of regular CW-complexes are characterized completely in terms of their internal poset structure, this provides a general combinatorial framework for detecting regular CW-complex support. One application of these results is that stable monomial ideals are supported on a regular CW-complex (a result obtained by different means by Mermin). (Received February 23, 2010)