

1145-13-2340

Hailong Dao (hdao@ku.edu), **Joseph Doolittle** (jdoolitt@ku.edu), **Ken Duna**, **Bennet Goeckner** (goeckner@uw.edu), **Brent Holmes*** (brentholmes@ku.edu) and **Justin Lyle** (justin.lyle@ku.edu). *Higher Nerves of Simplicial Complexes*.

We investigate generalized notions of the nerve complex for the facets of a simplicial complex. We show that the homologies of these higher nerve complexes determine the depth of the Stanley-Reisner ring $k[\Delta]$ as well as the f -vector and h -vector of Δ . We present, as an application, a formula for computing regularity of monomial ideals. (Received September 25, 2018)