

Meeting: 998, Houston, Texas, SS 19A, Special Session on Algebraic Geometry

998-14-289 **Xavier Gomez-Mont*** (gmont@cimat.mx), Jalisco s/n, Mineral de Valenciana, 36000
Guanajuato, Guanajuato, Mexico. *An Algebraic Formula for Indices of Vector Fields on Singular Varieties*. Preliminary report.

We present a method using homological algebra to compute the GSV-index (generalization of Poincare-Hopf index) for a vector field on a singular variety, obtaining explicit formulae for indexes on complete interesections using local algebra. The main tool is for hypersurfaces the Koszul complex and the mapping cone complex; while for complete intersections we use the Buchsbaum-Eisenbud complex. (Received March 01, 2004)