

1116-13-462

**David Eisenbud\*** (de@msri.org). *Duality for Residual Intersections.*

It is well-known that  $S$  is a power series ring of dimension  $d$  and  $a_1, \dots, a_d$  is a regular sequence in  $S$  then the Artinian module  $S/(a_1, \dots, a_d)$  is self-dual (that is, Gorenstein). About 25 years ago Duco van Straten pointed out a remarkable extension: if the ideal  $J = (a_1, \dots, a_d)$  has codimension only  $d - 1$ , and  $I$  is its unmixed part, then  $J/I$  is a self-dual module.

It turns out that this is the beginning of a general theory of duality for residual intersections. I will describe work of Craig Huneke and Bernd Ulrich, and a recent collaboration with Bernd Ulrich on this topic. (Received September 02, 2015)