



UNIVERSITY OF CALIFORNIA RIVERSIDE

DEPARTMENT OF MATHEMATICS

COLLOQUIUM

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"Minimal reductions, cores and the Cayley--Bacharach property"

Abstract:

Let R be a Noetherian local ring with infinite residue field k and I an R -ideal. The ideal J is a *reduction* of I if $J \subset I$ and $I^{r+1} = JI^r$ for some positive integer r . A reduction can be thought of as a simplification of the ideal I . The notion of a reduction for an ideal was introduced by D. Northcott and D. Rees in order to study multiplicities. In general minimal reductions are not unique. To remedy this lack of uniqueness, one considers the intersection of all reductions, namely the *core* of the ideal, $\text{core}(I)$. We will present some motivation for studying this object as well as a connection between the shape of the core and the Cayley--Bacharach property of a scheme of a finite set of points in a projective space.

Wednesday, April 6th, 2011

Surge 284

4:10-5:00pm

Tea Time at 3:40pm