

1035-13-1181 **Ananthnarayan Hariharan*** (ananth@math.ku.edu), Department of Mathematics, 1460,
Jayhawk Blvd, University of Kansas, Lawrence, KS 66045. *Connected Sums and the Gorenstein
Colength of an Artinian Local Ring*. Preliminary report.

In this talk, we will discuss some tools and techniques which help us compute the Gorenstein colength of an Artinian local ring R , denoted $g(R)$. Using these techniques, we compute $g(R)$ when R is the quotient of a polynomial ring over a field of characteristic zero, by a power of the unique homogeneous maximal ideal. One way to construct a new Artinian Gorenstein local ring is the notion of a connected sum. We use this to give a bound on the Gorenstein colength of fiber products of Artinian local rings. (Received September 19, 2007)