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When is the Gorenstein Colength of an Artinian Local Ring Two or Less? Preliminary report.

The question we are interested in is the following: Given an Artinian local ring R , how 'close' can we get to it by an Artinian Gorenstein local ring? In this talk I will make the notion of being 'close' precise using the concept of Gorenstein colength denoted $g(R)$. I will also answer the question as to when $g(R)$ is at most two. (Received July 23, 2007)