

Macaulay inverse system versus Newton duality

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It is known that any homogeneous Gorenstein ideal I of codimension n in $k[x_1, \dots, x_n]$ can be obtained as a colon ideal $(x_1^m, \dots, x_n^m) : f$, for some integer m and some form f . In this talk we deal with some of the main questions regarding this representation. For this, we will show how the form f and the generator of the Macaulay inverse system of I are related through the Newton duality concept. This is part of recent joint work with Dayane Lira (UFPB) and Aron Simis (UFPE).