

The 3rd Combinatorics Day

Saturday, 2nd of March of 2013

room 8.2.23, in C8, FCUL

Abstracts

15:45-16:30 **Jorge Neves** (CMUC,UC):

Vanishing ideals and Parametrized Linear Codes over Graphs

Abstract: The vanishing ideal of a parametrized linear codes was first studied in detail by Renteria, Simis and Villarreal. They show that the ideal associated to a parametrized linear code is a Cohen-Macaulay, radical, lattice ideal of codimension 1. The interest in these ideals is twofold: on the one hand, they form a rich class of lattice ideals; on the other hand, their algebraic invariants, such as the Castelnuovo-Mumford regularity, play an important part in the computation of the basic parameters of the code. In this talk, we shall focus on the case when the code is parametrized by the edges of a graph. We will review the general theory of parametrized linear codes and present some recent results (in joint work with Vaz Pinto and Villarreal) concerning the generators of the vanishing ideal and its Castelnuovo-Mumford regularity.