



CENTRO DE
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GEOMETRY AND TOPOLOGY AND COMPUTATIONAL MATHEMATICS JOINT
SEMINAR

Surfaces with canonical map of maximum degree

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Abstract. Consider a surface of general type with canonical map of finite degree d , and with irregularity q . It is known since the seminal paper of Beauville (1979) that either $q = 0, d \leq 36$ or $q > 0, d \leq 27$. So far only examples with degree $d \leq 32$ have been constructed.

Ball quotient surfaces are usually very hard to construct explicitly and deal with. Recently two breakthrough papers appeared, Borisov-Keum and Borisov-Yeung, where two certain such surfaces are given by equations, namely one of the 100 *fake projective planes* and the so-called *Cartwright-Steger surface*.

In this talk I will prove the existence of the above boundary cases $q = 0, d = 36$ and $q > 0, d = 27$. The hard part of the proof consists on finding equations for certain algebraic curves in that two ball quotient surfaces. All computations are implemented with the computer algebra system Magma.

FRIDAY, OCTOBER 19

15H30

ROOM 1.09

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