



Soria Summer School on Computational Mathematics

Hosted by SINGACOM, Universidad de Valladolid
12-16 July 2010. Soria, Spain

Algebraic Geometric Modelling in Information Theory (AGMINT)

The research group SINGACOM (University of Valladolid, Spain) is organizing an INTERNATIONAL SCHOOL ON ALGEBRAIC GEOMETRIC MODELLING IN INFORMATION THEORY from 12 to 16 July 2010 in Soria, Spain.

The main aim of this school is to bring together specialists, researchers and students working on various aspects of Computer Algebra, Geometry, Information Theory and related areas and their applications.

The academic program consists of a school on topics of current interest taught by leading experts. Also, there will be afternoon working sessions where interested postgraduate students can show their work in progress.

```

arrange[w_List] /; Length[w] == 1 := Grid[{w}]

arrange[w_List] /; EvenQ[Length[w]] := Grid[Partition[w, 2]]

arrange[w_List] :=
Module[{mark},
Grid[DeleteCases[Partition[Append[w, mark], 2], {mark, _}]]];

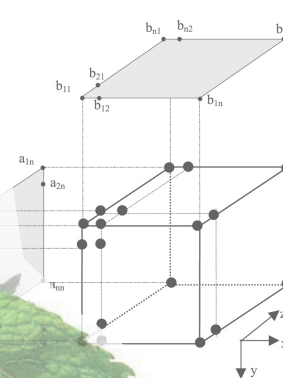
nonzero[x_] := If[x == 0, 1, x]

LT[p_PolynomialQ, vars_, or_] := First[NormalizeList[p, vars, or]]

LT[f_, g_, vars_List, or_] :=
With[{w = PolynomialLCM[LT[f, vars, or], LT[g, vars, or]]},
w / Thread[vars -> 1]]

S[f_, g_, vars_List, or_] :=
f LT[f, vars, or] . LT[g, vars, or] . vars, or]

```



Advance of the program

C1) Network coding

Olav Geil

Department of Mathematical Sciences, Aalborg University Denmark

C2) S-Boxes, APN Functions and Related Structures

Gary McGuire

Claude Shannon Institute for Discrete Mathematics, Coding and Cryptography, Ireland

C3) SAGE: A basic overview for coding and cryptography

David Joyner

Mathematics Department. U. S. Naval Academy, USA

C4) Steganography from a coding theory point of view

Carlos Munuera

SINGACOM group, Universidad de Valladolid, Spain

C5) Semigroups, codes and privacy applications

Maria Bras-Amorós

Departament d'Enginyeria Informàtica i Matemàtiques
Universitat Rovira i Virgili, Spain

Directors of the school:

Antonio Campillo López (SINGACOM, UVA)
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Edgar Martínez Moro (SINGACOM, UVA)
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Participation: The school is open to all mathematicians interested in the topics covered. Postdocs, PhD students, Postgraduate (master) are encouraged to apply. The number of places is limited to 30 people. The application procedure and other information may be found in the web page.

Support: The organizing committee can provide some financial support to cover registration fees, accommodation expenses and/or living expenses. (No travel expenses can be supported). Check in the web page if you can apply for those grants.

Deadline for applying for support: **15 April 2010**

Sponsors:



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<http://www.singacom.uva.es/oldsite/Actividad/s3cm/s3cm10/>