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Ignacio Fernandez Rua* (rua@uniovi.es), C/ Calvo Sotelo s/n, 33007 Oviedo, Asturias, Spain. *Finite Semifields: Theory and Computational Methods*.

Finite semifields (finite non necessarily associative division rings) have traditionally been considered in the context of finite geometries (they coordinatize projective semifield planes). Recent applications to coding theory, combinatorics and graph theory, have broaden the potential interest in these rings.

Because of their diversity, the obtention of general theoretical algebraic results seems to be a rather difficult (and challenging) task. On the other hand, because of their finiteness, computational methods can be naturally considered in the study of these objects. Indeed, such methods might enlighten new results, so that theoretical research may benefit from computational results and their analysis.

In this talk different questions concerning finite semifields such as the primitivity, cyclicity and classification problems (either under isotopy or isomorphism), will be addressed, both from theoretical and computational points of view. (Received September 17, 2007)