ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

13. Combinatorics

1991 MS Classification: 51
Joswig, Michael, Technische Universität Berlin, Germany

On Elation Laguerre Planes

A *Laguerre plane* is an incidence structure that generalizes the system of (ovoidal) plane sections of a cylinder over an oval in a desarguesian projective plane. Laguerre planes are well-known to be related to other types of incidence geometries such as generalized quadrangles.
An *elation Laguerre plane* admits a group of automorphisms which acts transitively on the set of circles and which fixes each parallel class. Finite elation Laguerre planes were studied bei Kantor, Thas, and Steinke. Löwen, Steinke, and Schroth investigated locally compact connected elation Laguerre planes.
We show that there is a general theory of elation Laguerre planes along the lines of translation affine planes which allows for a unified approach.