

Algebra Seminar

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Wednesday, November 27, 2013

HH-3017 at 1 p.m.

A characterization of rings with planar unitary Cayley graphs

Abstract:

Let R be a ring with identity. The unitary Cayley graph of R is the simple graph with vertex set R , where two distinct vertices x and y are linked by an edge if and only if $x-y$ is a unit of R . A graph is said to be planar if it can be drawn on the plane in such a way that its edges intersect only at their endpoints. In this paper, we completely characterize the rings whose unitary Cayley graphs are planar. As an application of this result, the semilocal rings with planar unitary Cayley graphs are completely determined. This is a joint work with Yiqiang Zhou.