

Radically solvable graphs

Bill Jackson

A 2-dimensional framework is a straight line realisation of a graph in the Euclidean plane. It is radically solvable if the set of vertex coordinates is contained in a radical extension of the field of rationals extended by the squared edge lengths. We show that the radical solvability of a generic framework depends only on its underlying graph and characterise which planar graphs give rise to radically solvable generic frameworks. We conjecture that our characterisation extends to all graphs. This is joint work with J. C. Owen (Siemens).