

GLOBAL RIGIDITY IN ANALYTIC PLANES

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(This talk is based on joint work with Sean Dewar and John Hewetson.)

A bar-joint framework (G, p) is the combination of a finite, simple graph G and a map assigning positions in Euclidean d -space to the vertices (and hence lengths to the edges). The framework is globally rigid if every other framework (G, q) with the same edge lengths arises from an isometry of Euclidean d -space. When $d = 2$ there is a beautiful combinatorial theory of generic global rigidity which I will briefly describe. Unfortunately, when $d > 2$, things become more complicated but a different generalisation is to consider other types of distance constraint. In particular Kitson and Power initiated the study of local rigidity in non-Euclidean normed planes. I will present joint work with Dewar and Hewetson where we extend that to investigate global rigidity in normed planes.