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Title: Rigid graphs in dimension 3

Abstract:

A graph is rigid in d-dimensional Euclidean space if there is an embedding of the vertices which admits no non-trivial edge-length preserving continuous motion. Rigid graphs in dimensions 1 and 2 are characterised by simple counting rules, but currently no such rules are available in higher dimensional Euclidean spaces. We will provide a gentle introduction to graph rigidity and report on recent progress in characterising rigid graphs for a class of cylindrical normed spaces of dimension 3. We will also indicate connections to formation control. This is joint work with Sean Dewar (University of Bristol).