Contribution ID: **16**   Type: **not specified**

Rigidity of v_3-configurations

A framework of a graph is rigid if no motion of the graph, preserving edge lengths, changes the distance between two vertices. Equivalently, a graph is rigid if it can only move by translation and rotation. A graph that is not rigid is flexible. Under certain conditions on the coordinates of the vertices, we can determine whether or not a planar framework of a graph is rigid by looking at the underlying graph.

A geometric v_k-configuration is a collection of v straight lines and v points in the plane such that there are k points on each line and k lines through each points. A geometric v_2-configuration is a framework of a graph, so geometric v_k-configurations generalise frameworks of graphs.

In this talk we will consider the rigidity properties of v_k-configurations. A geometric v_k-configuration is rigid if the only motions of it, preserving point-line incidences and distances between collinear points, are translation and rotation. A geometric v_k-configuration that is not rigid is flexible.

Primary author: LUNDQVIST, Signe

Presenter: LUNDQVIST, Signe

Track Classification: Oral presentation