# Rigid two-dimensional frameworks with two coincident points

Viktória Kaszanitzky

Let $G = (V, E)$ be a graph and $u, v \in V$ be two designated vertices. We give a necessary and sufficient condition for the existence of a rigid two-dimensional framework $(G, p)$, in which $u, v$ are coincident. This result extends a classical result of Laman on the existence of a rigid framework on $G$. Our proof leads to an efficient algorithm for testing whether $G$ satisfies the condition.
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