1050-05-54 **Servatius Herman*** (hservat@wpi.edu), Mathematical Sciences, WPI, Worcester, MA 01609.
*Equivalent Mechanisms and Configuration Spaces.*

A theorem of Kempe states that every algebraic plane curve can be traced by a vertex of a pinned mechanism of rigid rods and revolute joints. We consider two mechanisms to be locally point equivalent if there is a curve in the plane, other than a circle, which is traced by the vertices of both mechanisms. Given two locally point equivalent mechanisms, one cane superimpose them to create a larger mechanism which is necessarily dependent. We examine ways to reverse this process. (Received February 21, 2009)