1038-65-99 **Gerard Awanou*** (awanou@math.niu.edu), Dekalb, IL 60115. *New and Old Rectangular Mixed Finite Elements for Plane Elasticity.*

We present stable elements for the mixed formulation of plane linear elasticity. The finite element spaces are defined with respect to a rectangular decomposition of the domain. After reviewing the construction of conforming and nonconforming discretizations with symmetric stress fields, we present elements with weakly imposed symmetry condition. These may be viewed as rectangular analogues of the Arnold-Falk-Winther elements recently proposed on triangular meshes. (Received February 01, 2008)