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K. Grace Kennedy* (kgracekennedy@math.ucsb.edu), University of California Santa Barbara, Department of Mathematics, 6607 South Hall, Santa Barbara, CA 93106-3080. *A new algorithm for the Multivariable Alexander Polynomial of a Link.*

In 1923, Alexander discovered the Alexander Polynomial of a knot, and then in 1970, Conway published a multivariable version of the Alexander polynomial. Last spring, Stephen Bigelow gave a diagrammatic method for calculating the Alexander polynomial of a knot by resolving crossings in a knot or link in a planar algebra. I will present my multivariable version of Stephen Bigelow's calculation, which is the Multivariable Alexander Polynomial defined by Conway. The advantage of this algorithm is that it generalizes to a multivariable tangle invariant up to Reidemeister III. (Received September 19, 2011)