1030-08-302 **Itnuit Janovitz-Freireich**, **Bernard Mourrain**, **Lajos Ronyai** and **Agnes Szanto***
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Eliminating near multiplicities in polynomial systems: a global approach.

The talk will introduce a method to compute the approximate radical of a zero dimensional ideal which has zero clusters: the approximate radical ideal has exactly one root in each cluster for sufficiently small clusters. This approach is global in the sense that it eliminates all near multiplicities simultaneously without using estimates of the roots. The method is based on the computation of either the matrix of traces or the Bezout matrix, both computable from the coefficients of the input polynomial system. Asymptotic bounds are given for the accuracy of the method in terms of the size of the clusters. (Received August 06, 2007)