2011 South Taiwan Workshop on Scientific Computing and Applications

Title: Mixed Volume Computation in parallel

Speaker: Tsung-Lin Lee　李宗錂　　　(National Sun Yat-sen University)

Abstract:
　　　Calculating mixed volume is the critical step in solving polynomial systems by the polyhedral homotopy continuation method. The algorithm in our software MixedVol-2.0 is highly serial. Recently we reformulated the original algorithm so that the resulting algorithm can be well adapted in parallel computation. Remarkably, very high speed-ups were achieved in our numerical results, and we are now able to compute the mixed cells for very large systems.