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Global Optimization using hyperbolic cross points with application in clustering

Erich Novak and Klaus Ritter developed in 1996 a global optimization algorithm that uses hyperbolic cross points (HCPs). We modify this algorithm in many ways to improve its efficiency and developed a local search strategy that results in much better chance to find the global minimizer. The ideas are implemented on the computer for optimization in clustering. The program has been tested extensively with very promising results.