1142-00-211 **Daiki Ikami*** (ikami@hal.t.u-tokyo.ac.jp). *Residual Expansion Algorithm: Fast and Effective Optimization for Nonconvex Least Squares Problems.*

We present the residual expansion (RE) algorithm for obtaining near-global optimum in nonconvex least squares problems. Unlike most existing global optimization techniques, the RE algorithm is a deterministic algorithm not based on either stochastic or multi-point searches. Our results demonstrate high optimization performance in many problems such as k-means clustering. This is joint work with Kiyoharu Aizawa and Toshihiko Yamasaki. (Received September 04, 2018)