An Optimal ABEL Trap for Single Molecules

Quan Wang and W. E. Moerner

Knight’s tour scanning of excitation spot on a 2D grid

Scan pattern
Simulated intensity profile
Actual intensity profile

Position are estimated in real time through the **Kalman filter** algorithm


Offline estimate of diffusion coefficient can be achieved by a maximum likelihood estimator

Single molecules of atto680 labeled mmCpn held in the trap