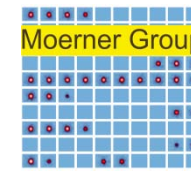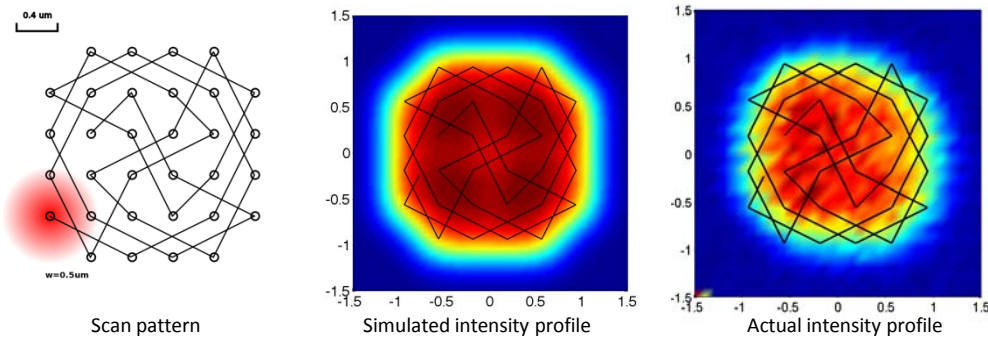# An Optimal ABEL Trap for Single Molecules

Quan Wang and W. E. Moerner
Appl. Phys. B 99, 23-30 (2010)
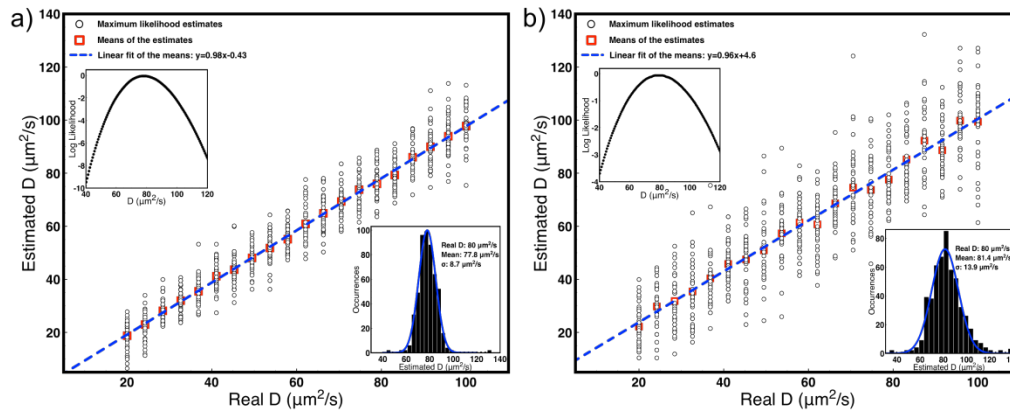
Knight's tour scanning of excitation spot on a 2D grid

Scan pattern   Simulated intensity profile   Actual intensity profile
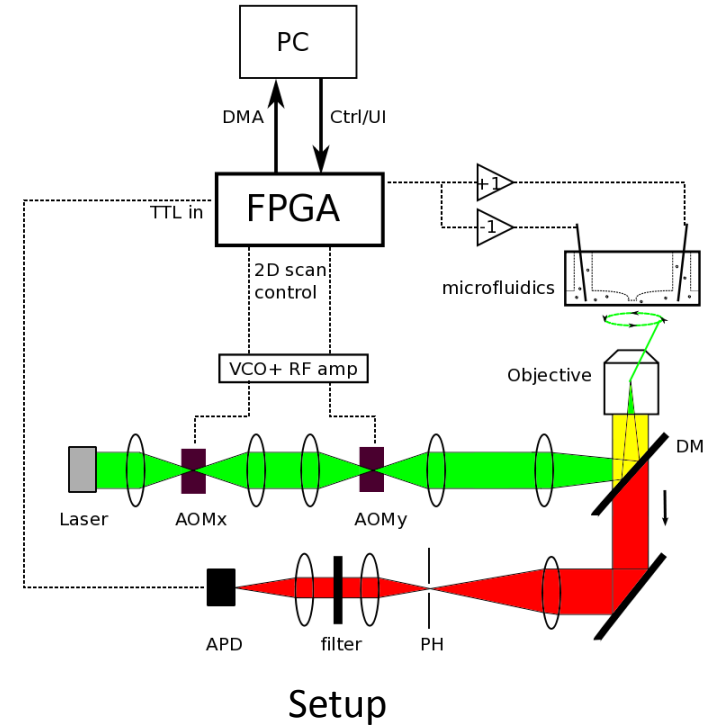
Position are estimated in real time through the **_Kalman filter_** algorithm
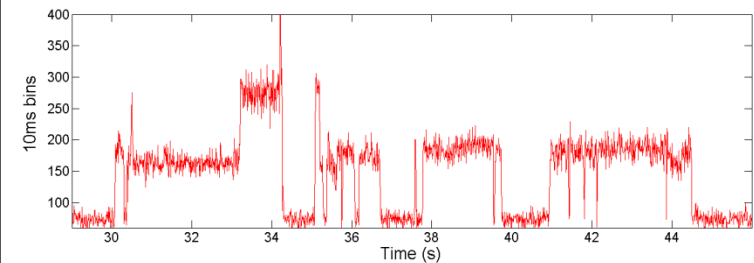
Q. Wang and W.E. Moerner, Appl. Phys. B. 99: 22-30, 2010

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

Setup

Single molecules of atto680 labeled mmCpn held in the trap