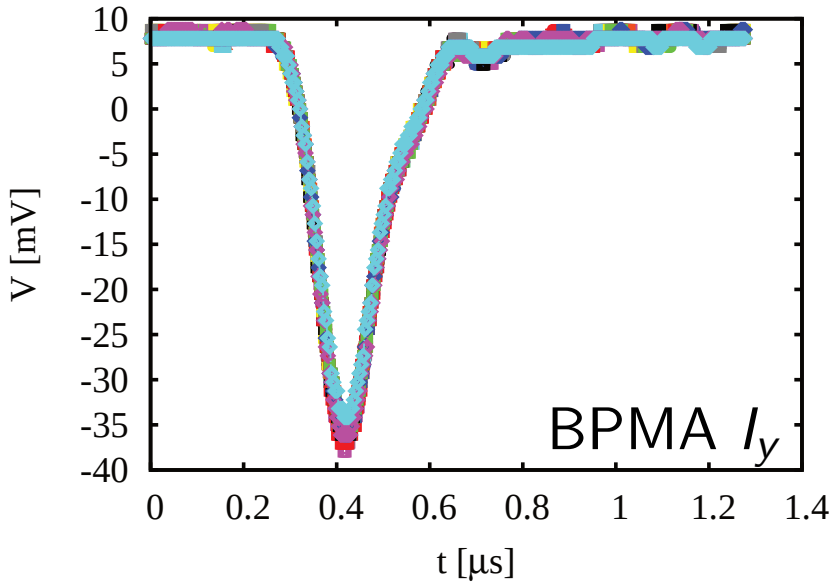
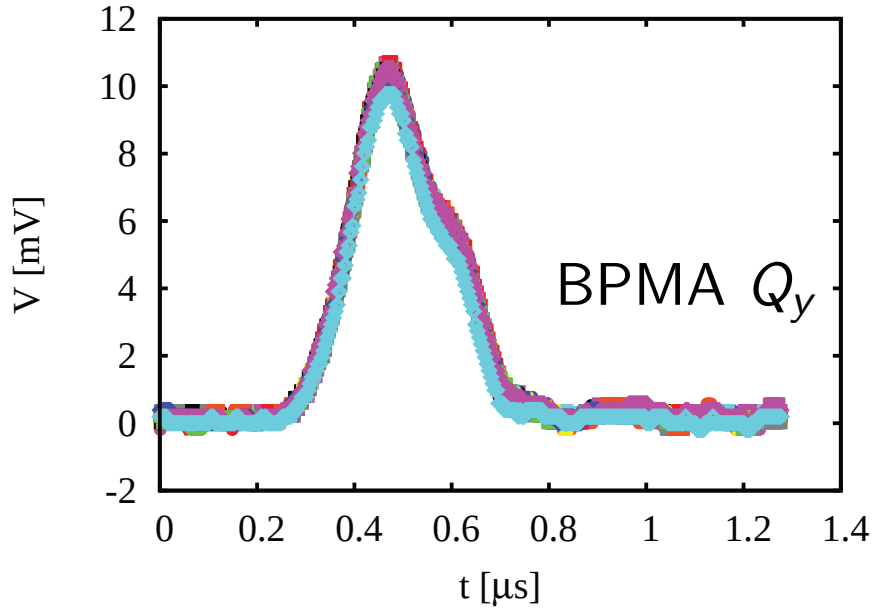
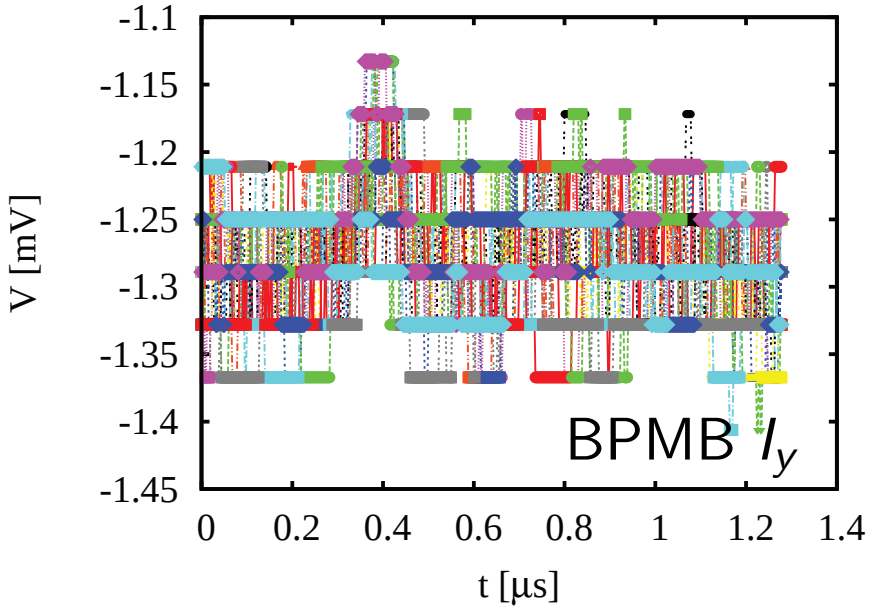
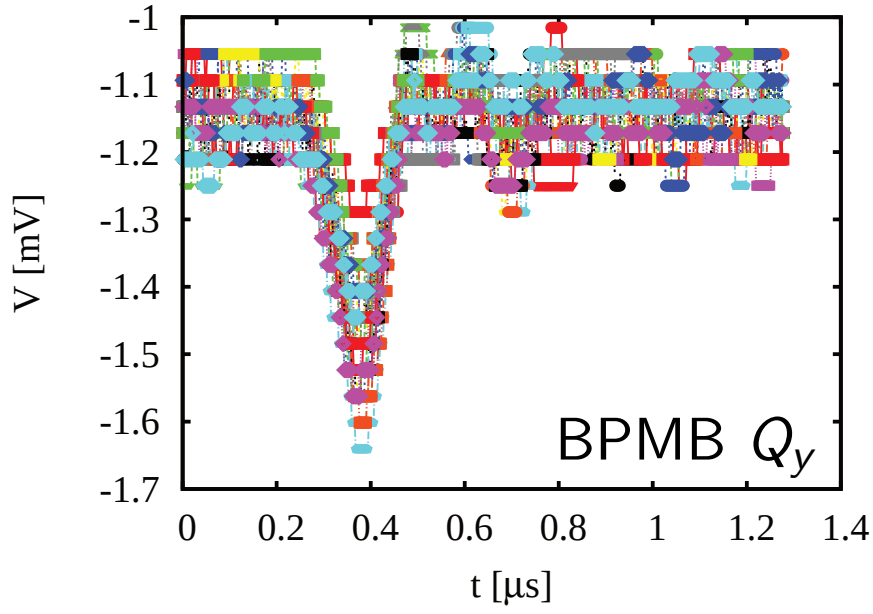
- First step,try to make BPMB IQy signals zero. From http://atf.kek.jp/twiki/bin/view/ATFlogbook/Log20131217o
  it happened at
  Mover 1 5.974 V
  Mover 2 5.954 V
  Mover 3 5.947 V
- 51 bunches were acquired at this point, the following are the IQy signals.
  10db att. and -10db gain in amplifiers (not sure)
  BPMA signals might be saturated

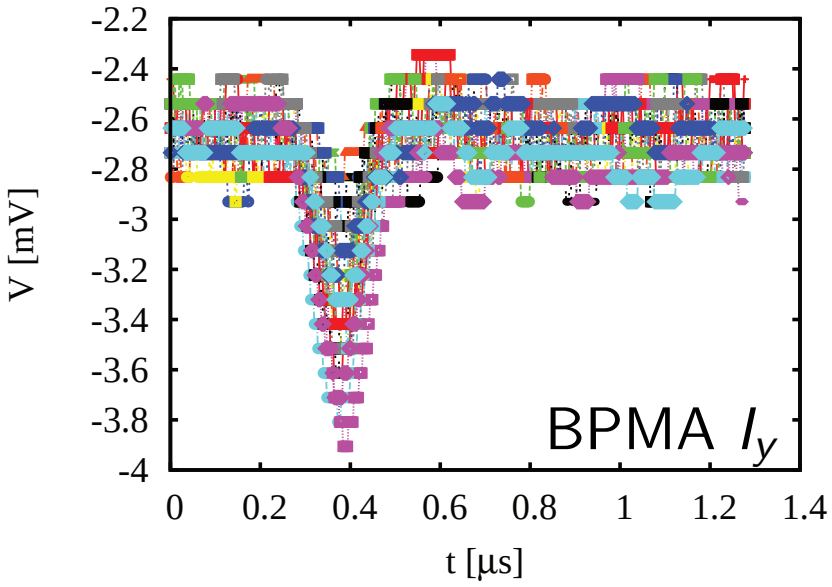

BPMA I_y
V [mV]
t [μs]

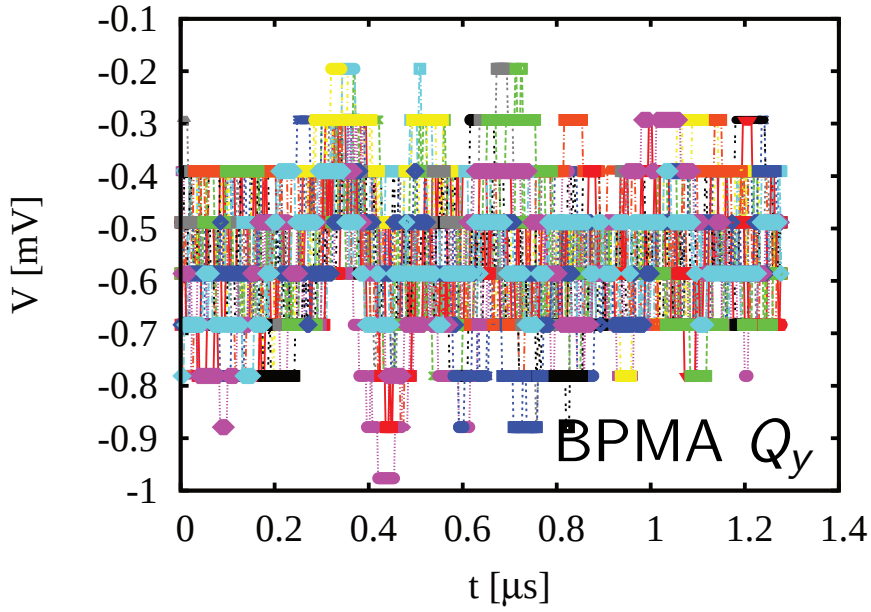

BPMA Q_y
V [mV]
t [μs]

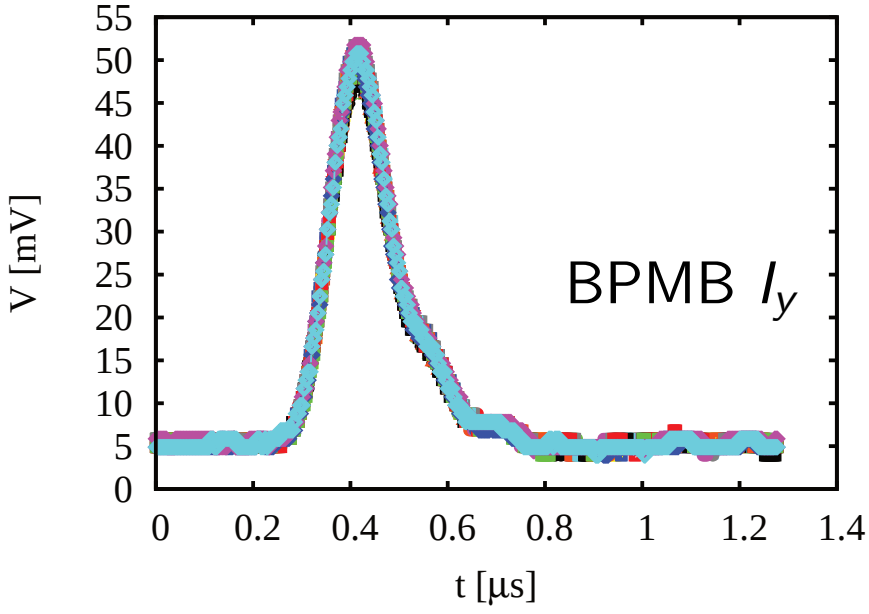

BPMB I_y
V [mV]
t [μs]

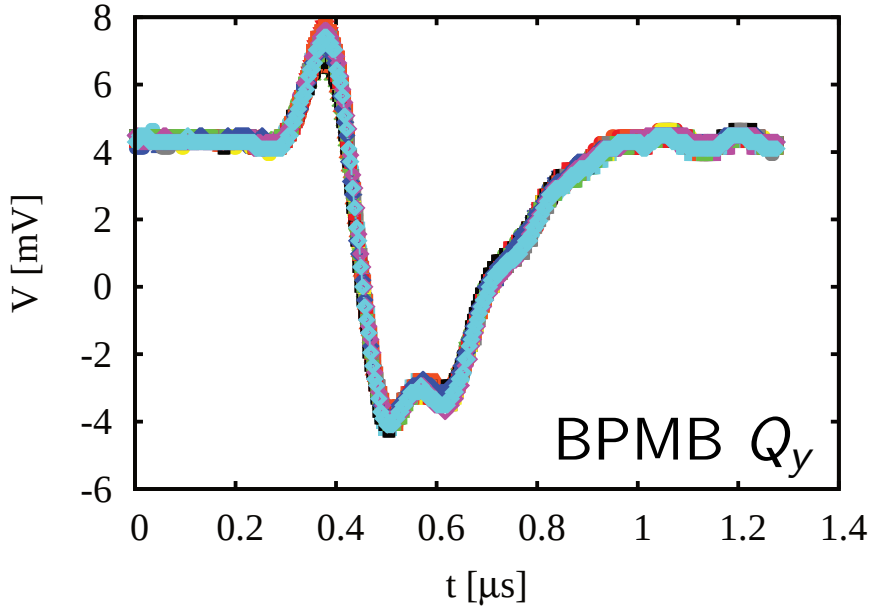

BPMB Q_y
V [mV]
t [μs]

- Next step, try to make BPMA IQy signals zero by movers
- Movers were moved up 34μm (1.1V less each mover) to find BPMB I_y signal zero. It was made on steps of $\sim \pm 3\mu$m (0.1V)
- Movers 1,2 and 3 were moved in different scales to achieve rotation. Steps of $\sim \pm$0.1mrad (-0.32V on M1,2 and 0.1V on M3)
- From
  http://atf.kek.jp/twiki/bin/view/ATFlogbook/Log20131217o
  it happened at
  Mover 1 -0.072 V
  Mover 2 -0.057 V
  Mover 3 6.429 V
- 51 bunches were acquired at this point, the following are the IQy signals
  10db att. and -10db gain in amplifiers (not sure)
  BPMB signals might be saturated


V [mV]
t [μs]
BPMA I_y


V [mV]
t [μs]
BPMA Q_y


V [mV]
t [μs]
BPMB I_y


V [mV]
t [μs]
BPMB Q_y

- Averaging movers M1,2, and including M3 in the equation $\theta_p = 1.03\text{mrad}(M_3 - M_{1,2})$.
  Where:
  $M_i = (3 - V_i)/4$
  $1.03\text{mrad} = 125\mu\text{m}/121.6\text{mm}$
  $=$(half movers range/distance between $M_{1,2}$ and M_3)
  It is possible to obtain initial and final angles
- Initial angle $\theta_p = -0.01\text{mrad}$
  Final angle $\theta_p = 1.6\text{mrad}$