

Description of Additional Supplementary Files

Supplementary Movie 1: Moving ball extracted from ferroelectric domain switching signals using the voltage pulses with width of 0.5 ms and amplitude of 20 V.

Supplementary Movie 2: Moving cars extracted from ferroelectric domain switching signals using the voltage pulses with width of 2 μ s and amplitude of 40 V.

Supplementary Movie 3: The in-situ motion extraction system.

Supplementary Movie 4: Real-time motion extraction of people's movements.