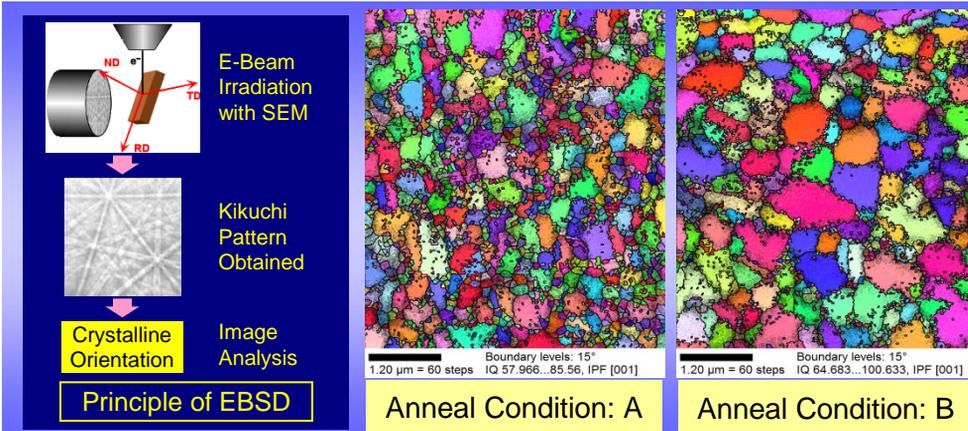


Characterizations of poly-silicon for Active Matrix Displays

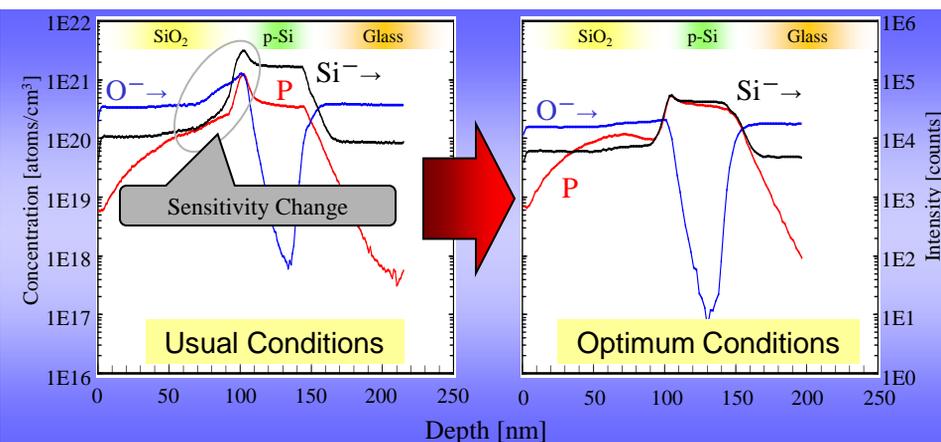
Poly-silicon (p-Si) is used for active matrix LCDs and OLEDs since it has a high electron mobility. Here we show some examples of p-Si analyses by EBSD and D-SIMS, and we also present a simulated result of a cross-sectional carrier profiling of a p-Si TFT using SCM.

1. Grain Analysis by EBSD



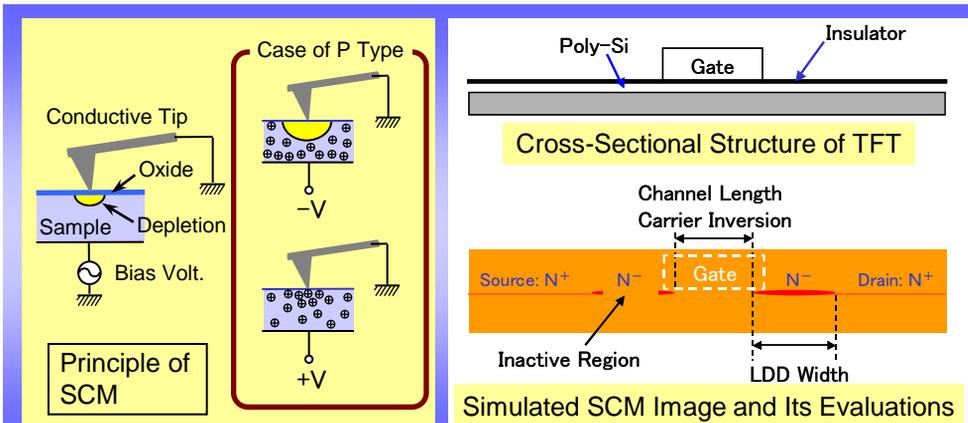
EBSD clarified the differences in size distribution and crystalline orientation of p-Si grains between anneal conditions A and B.

2. Optimization of Depth Profiling by D-SIMS



D-SIMS depth profiling of a multi-layer of insulator and conductor sometimes suffers unexpected sensitivity change caused by charging. We can suppress it with optimized measurement conditions.

3. Cross-Sectional Carrier Profiling of p-Si TFT by SCM



SCM provides a 2D carrier profile of a semiconductor device's cross section. We can evaluate LDD widths, gate overlaps, channel length, and inactive regions of a p-Si TFT using SCM.