

Chapter 7: Future Prospects

We have shown that anodic aluminum oxide (AAO) is an ideal template material for preparing ordered arrays of metal oxide nanodots. However, some subjects should be further studied:

1. More ordered nanodot arrays with a narrower size distribution may be obtained by starting with thicker and fine quality films. Moreover, some physical properties, such as photoluminescence, photo-adsorption, electrical conductivity, etc., of the self-organized nanodots should be further studied, which is scientific importance and technological significance of future applications.
2. Functional metal oxide nanodot arrays such as TiO_2 , In_2O_3 , SnO_2 , Fe_2O_3 and IrO_2 ...etc. should be fabricated using our novel method.
3. The self-organized pyramid-like nanodot arrays with low fabrication cost over a large area may be the good field emission material. The high geometrical enhancement and excellent uniformity may give the devices with a low gate turn-on voltage and considerably high emission current density.