

Field Emission Characteristics of Multi-walled Carbon Nanotubes with Double Gate Electrodes

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Abstract. Two types of double gate electrodes were fabricated by several steps such as photolithography and thin-film deposition methods. The electron sources of these double gate electrodes were generated by multi-walled carbon nanotubes (MWCNTs). The aspect ratio of the MWCNTs grown via thermal chemical vapor deposition method was very high. Thus, the field emission performances of double gate electrodes were excellent and met the demand for application. At an applied voltage 10 V, the current reached 29 μA .