

나노선 소자에서의 접촉 포텐셜 추정

박응석, 김혜영, 전대영, 허정환, 박소정, 김대현, 지현진, 김규태
고려대학교 전기공학과

Estimation of Contact Potential of Nanowire Devices

Eungseok Park, Hyeyoung Kim, Hyeyoung Kim, Junghwan Huh, Sojeong Park, Daehyun Kim, Hyunjin Ji, Gyutae Kim
Electrical Engineering Department, Korea University

Abstract : Contact potential barriers between multiwall carbon nanotubes (MWCNTs) and metal electrodes were measured by a cross-configuration of four-probe method. MWCNTs were dispersed on the SiO₂/Si substrate and metal electrodes were thermally deposited across individual nano tubes. Electron beam lithography was used to pattern metal electrodes with Au, AuPd, Ti/Au, and Cr/Au. Using the four-probe method, only the contact potential at the MWCNT-metal electrode junction could be extracted, excluding the influence of the bulk part in the resistance.