

**FORMATION AND RUPTURE OF SCHOTTKY NANOCONTACTS ON ZnO
NANOCOLUMNS**

Beatriz Perez Garcia
Universidad de Murcia
Edificio CIOyN, Campus de Espinardo. Murcia

E-mail: beatrizp@um.es

The electrical transport and mechanical properties of Schottky Pt/ZnO nanocontacts have been studied simultaneously during the formation and rupture of the nanocontacts. By combining multidimensional conducting scanning force spectroscopy with appropriated data processing the physical relevant parameters (the ideality factor, the Schottky barrier height and the rupture voltage) are obtained. It has been found that the transport curves strongly depend on the loading force. For loading forces higher than a threshold value the transport characteristics are similar to those of large-area Schottky contact, while below this threshold deviations from strictly thermionic emission are detected. Above the threshold, stable and reproducible Pt/ZnO nanocontacts with ideality factors of about 2 and Schottky barrier heights of around 0.45eV have been obtained.