

ST-P003

## Strong Electric Field in Ultra High Vacuum

Sunghwan Shin, Youngsoon Kim, Hani Kang, Heon Kang

Department of Chemistry, Seoul National University

In surface chemistry area, many scientists studied the electrochemical reaction by changing work-function of metal; however, these methods had the weakness that it did not create the electric field. Unlike earlier studies, our capacitor-method makes a strong electric field in ice film. This electric field was induced by soft landing Cs<sup>+</sup> ions on ice film, and the strength was measured by the vibrational Stark shift of acetonitrile. In our system, the electric field strength is 10<sup>9</sup> V/m and it is almost same in the electrochemical cell. This capacitor model provides new method to investigate the electrochemical reaction in vacuum system.

**Keywords:** Ultra High Vacuum, Electric Field, Vibrational Stark Effect