# Weekly Seminar

Time: 4:00pm, April. 2, 2014 (Wednesday)

2014 4 2 4:00

Venue: Room 607, Conference Room A , Science Building 5

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Molecules with sufficiently large dipole moments were predicted to form weakly bound negative ions in the dipolar field and such dipole-bound anions have been observed and characterized experimentally. Negative ions with dipolar molecular cores can have excited dipole-bound states (DBS) near the detachment threshold, analogous to Rydberg states in neutral molecules. We report observation of vibrational autodetachment from DBS of cold phenoxide anions using high-resolution photoelectron imaging. Photoelectron spectra are measured from resonant excitations to eight vibrational levels of the DBS. Dramatic resonant enhancement is shown for vibrational modes with weak Franck-Condon factors in the nonresonant photoelectron spectra. Resonant excitation coupled with high-resolution photoelectron imaging of cold anions allows accurate measurement of the binding energies of DBS and can be used to probe the dynamics of DBS and vibrational structures of dipolar radicals.

## About the Speaker

1997.9 –2001.7

2001.9 –2006.10

2006.12–2008.10 Max-Born-Institute ( )

2008.11–2010.8 Max-Born-Institute

2010.9 – 2014.1 Brown University

2014.2 –

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