

Extensive spectral studies of small bare metal cluster ions are now readily accessible in this new apparatus -- involving both the detailed high resolution spectroscopy of these metal clusters, and the routine measurement of binding energies as a function of cluster size.

APPENDICES

- X1) Copy of J. Chem. Phys. Communication on hydrogen chemisorption on transition metal clusters.

- X2) Copy of Chemical Engineering News article from Jan 21 issue.

- 3) Figure showing first observation of cold NEGATIVE metal cluster ions in a supersonic beam.

- 4) Figure showing first FTICR observation of a bare transition metal cluster injected into the ICR cell from an external supersonic cluster beam. The displayed spectrum has been heterodyned, this limited region of the mass spectrum shows only the Nb₃ cluster at a mass resolution greater than 50000 to 1. FTICR spectra were observed out thru the sixth cluster.

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