

Abstract Submitted
for the GEC13 Meeting of
The American Physical Society

Expansion of Swarm Experiments at JILA to Microplasma Research KUNIHIDE TACHIBANA, Osaka Electro-Communication University — Strongly attracted by the Art's remarkable work on metastable atoms in the 50s, I joined JILA as a posdoc at his laboratory in 1978. The assigned machine for me was a drift tube, and the first work was to check the validity of previous results. In a sense, I was tested of my skills as an experimentalist, but soon later I was able to start an original work on the measurement of excitation coefficient of rare gas atoms using the machine. We applied the laser absorption spectroscopy for the measurement of the excited atoms. The argon-ion-laser excited dye-laser at the lab for the light source was awfully unstable, but I was so lucky to have a wonderful support from John Hall, a Nobel prize winner in 2005, to stabilize the laser system. After I came back to Japan in 1980, I extended the work to the measurement of Xe metastable ($1s5$) and resonant ($1s4$) atoms in a micro discharge cell of a plasma display panel. Then, I have deeply got into the world of microplasmas, exploring the new world with sophisticated arrays of microplasmas to find unusual properties as metamaterials for electromagnetic waves. Throughout my whole research life, I would like to sincerely thank Art for the wonderful experiences with him at JILA.

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Date submitted: 14 Jun 2013

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