Final Circular (revised 99/7/9)

International Workshop on Atomic Collisions and Atomic Spectroscopy with Slow Antiprotons

July 19-21, 1999, Tsurumi, Yokohama, Kanagawa, Japan

The International Workshop on Atomic Collisions and Atomic Spectroscopy with Slow Antiprotons will be held from July 19 to 21, 1999. The Workshop is organized by The Antimatter Science Project, University of Tokyo, The Center for CERN related Atomic and Nuclear Physics of the Danish Natural Science Research Council, and RIKEN.

Workshop Schedule & Site:

July 18th:
Welcome Drink: 19:30-21:30, Room "Sumire", 3rd floor of the New Tower of **Sinagawa Prince Hotel**
Registration Desk: 18:00-21:30, the same room as the Welcome Drink

July 19th:
Bus from Shinagawa Prince Hotel to Tsurumi Girls High School: 8:00
Registration Desk: 9:00-16:00, at **Tsurumi Girls High School**
Scientific Program: 9:00-16:00 at **Tsurumi Girls High School**
Social Program (Zazenkai): 16:10- at **Sojiji-Temple**
Bus from Tsurumi Girls High School to Shinagawa Prince Hotel (for those who do NOT join the Social Program at Sojiji): 16:10

July 20th:
Bus from Shinagawa Prince Hotel to Tsurumi Girls High School (for those who do not join the Social Program at Sojiji): 8:00
Registration Desk: 9:00-17:00, at **Tsurumi Girls High School**
Scientific Program:9:00-17:20 at **Tsurumi Girls High School**
Bus from Tsurumi Girls High School to Shinagawa Prince Hotel: 17:30
Workshop Banquet: 19:00-21:00 at Room "Aso", 6th floor of the New Tower of **Sinagawa Prince Hotel**

July 21st:
Scientific Program:9:00-12:30 at Room "Aso", 6th floor of the New Tower of **Sinagawa Prince Hotel**

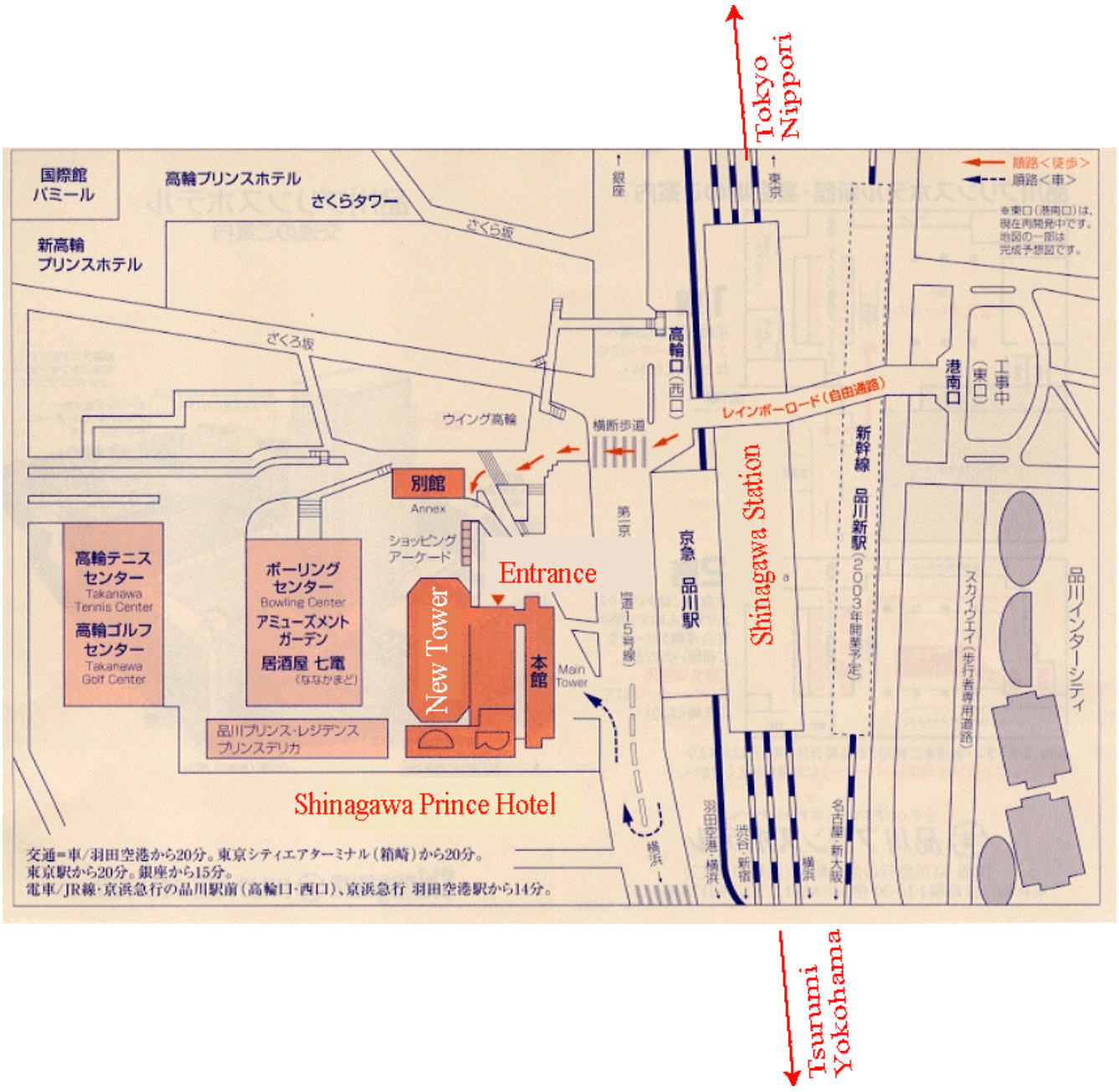
Accommodation:

For those who reserved a room at Shinagawa Prince Hotel: All the rooms for pbar99 attendees are reserved at "New Tower" of the Hotel.

Room Rate	Single	Twin
With Breakfast	¥9,800	¥17,800
Without Breakfast	¥9,200	¥16,300

(service charge included, tax not included)

The web site of the hotel is http://www.princehotels.co.jp/english/search_menu1/05000000/08000001.html



Transportation:

From Narita Airport to Shinagawa Prince Hotel:

(1)Direct Connection by Limousine Bus (http://www.narita-airport.or.jp/limousine/nrtdep.html)
(2)From Narita Airport to Nippori by Keisei Railway Line (about 1 hour), from Nippori to Shinagawa by Yamanote Line (about 20 minutes), and a couple of minutes walk to the Hotel
(other possibilities could be found at http://www.narita-airport.or.jp/airport_e /access_e /access_index.html)

From Shinagawa Prince Hotel to Tsurumi Girls High School:

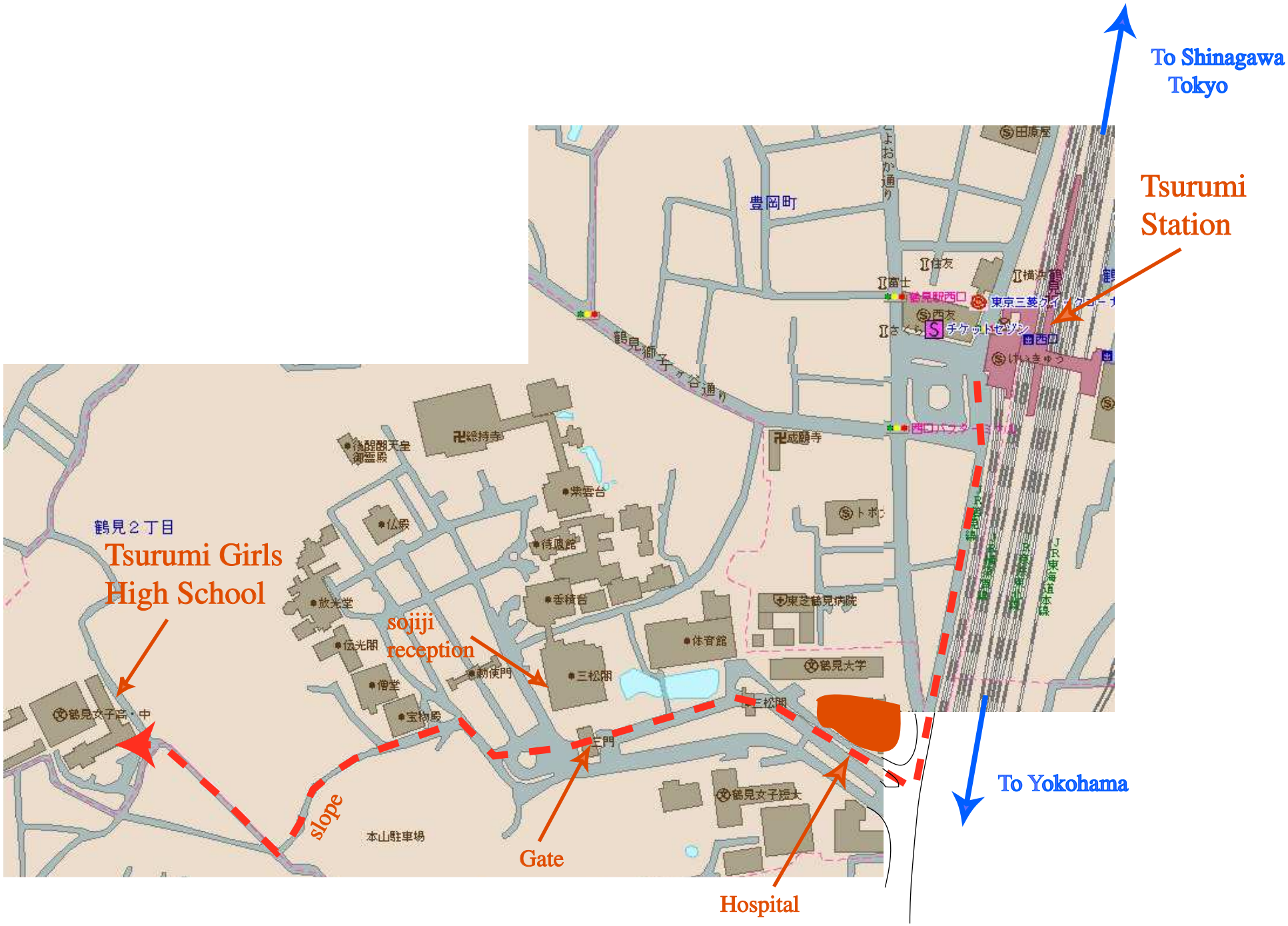
(1) By the chartered bus: The bus will leave the Hotel on 8:00. All the Workshop attendees who are interested in are expected to present at the "Front Service" of the Hotel (1st floor of the New Tower) before 7:55.
(2) By Train: JR Keihin-Tohoku Line from Shinagawa Station to Tsurumi Station (about 15min.)

From JR Tsurumi Station to Tsurumi Girls High School:

Follow the red dotted line drawn in the map attached in the next page

Registration Desk:

The registration desk will open from 18:00, July 18th (Sunday) at "Sumire" (the room for Welcome Drink) at 3rd floor of the Shinagawa Prince Hotel. The registration fee (¥20,000) must be paid at the desk. We can only accept Japanese Yen in cash. The registration fee includes the abstract book, coffee during coffee break, and all the Social Programs. The registration fee for the accompanying person(s) is ¥10,000, which includes all the Social Program.


To Shinagawa
Tokyo
Tsurumi
Station
豊岡町
鶴見２丁目
Tsurumi Girls
High School
sojiji
reception
slope
Gate
Hospital
To Yokohama
鶴見女子高・中
本山駐車場
鶴見大学
東芝鶴見病院
鶴見女子短大
JR東海道本線

International Advisory Board:

J.Burgdoerfer, J.S.Cohen, R.Hayano, M.H.Holzscheiter, D.Horvath, M.Inokuti, H.Knudsen, K.Komaki, T.Yamazaki, Y.Yamazaki,

Organizing Committee: R.Hayano, H.Knudsen, K.Komaki, T.Yamazaki, Y.Yamazaki

Workshop Chairman: Ken-ichiro Komaki

Address of Correspondence:

Yasunori Yamazaki or Ms. Chikako Kuramochi (Workshop secretary)
Antiproton Workshop, Institute of Physics, University of Tokyo, Komaba
3-8-1, Komaba, Meguro-ku, Tokyo, 153-8902, Japan, tel:03-5454-6521, fax:03-5454-6433
email:pbar99@radphys4.c.u-tokyo.ac.jp, web:http://radphys4.c.u-tokyo.ac.jp/pbar99/
In case of emergency: 09047001537

Scientific Program (slide projectors are NOT available)

July 19th, morning session I:

K.Komaki (30min): Antimatter Science with Slow Antiprotons
H.Knudsen(30min): Experimental data on ionization and energy loss for antiprotons colliding with matter
P.Krstic (30min): Ionization of ions and atoms by slow antiprotons
A.Igarashi(15min): Ionization of atomic hydrogen with antiprotons

July 19th, morning session II:

R.Hayano (30min): Laser spectroscopy of protonium
J.S.Cohen (30min): Isotope effects on antiproton capture
M.Fujiwara (30min): Muon catalyzed fusion studies with a muonic hydrogen beam at TRIUMF
K.Ohtsuki (20min): $\bar{p}$ $^{+}$

July 19 , afternoon session:

K.Fine (40min): Nonneutral plasmas and antihydrogen production
T.Ichioka (30min): Status report on the ASACUSA antiproton trapping system
H.Totsuji (30min) : Two-Component Nonequilibrium Nonneutral Plasma in Penning-Malmberg Trap

July 20th, morning session I

M.Hori(30min): High-precision, two-photon laser spectroscopy of antiprotonic helium atoms and other experiments using ultra-low density targets
Y.Kino (30min): Non-Adiabatic High-Precision Calculation of Antiprotonic Helium Atomcule and Determination of Antiproton Mass
V. I.Korobov (30min): Spectroscopy of the antiprotonic atomcule
T.Koike(20min): Nuclear absorption process in antiprotonic helium atoms

July 20th, morning session II:

G.Ya.Korenman (30min): Collisions of antiprotonic atomcules with He atoms
D.Bakalov (30min): Density shift and broadening of the transition lines in antiprotonic helium
T.Azuma (20min) : Does a solvated antiproton exist ?

July 20th, afternoon session I:

H.Schmidt-Boecking (30min): Comparison of multi-differential ionization cross sections in fast antiproton and proton on Helium collisions --- A proposal for future studies with a table sized PBAR-storage ring
C.D.Lin (30min): Ionization of H and He atoms by antiprotons revisited
A.Kover (30min): Post Collision Interaction at Proton, Antiproton - Atom Collisions

July 20th, afternoon session II:

R.Schuch (20min): An accurate measurement of the p mass using highly charged ions in a Penning trap
E.Morenzoni (30min): A new low energetic muon beam and its applications
N.Kabachnik (20min): Channeling of slow antiprotons

July 21st, morning session I:

M.Holzscheiter (30min): Tests of CPT, Lorentz Invariance and the WEP with Antihydrogen
R.Schuch (20min): Making Hbar by recombination in a Penning trap
S.Schippers (30min): Recombination of H-like ions with electrons: a testing ground for the formation of anti-hydrogen?
P.Froelich (20min): Hydrogen - Antihydrogen Collisions

July 21st, morning session II:

Panel Discussion: Antihydrogen Production & Spectroscopy
M.Inokuti (20min): Concluding Remarks

More details on Zazenkai: July 19th A Special Lecture & Zazenkai at Sojiji Temple

(The same campus as the Workshop site)

16:10-18:15 Meal Preparation
18:15-19:05 Special Lecture: Zen Garden as an Expansion of Mind by Mr. Shunmyo Masuno (Zen Priest, Garden Architect, Visiting Prof. of British Columbia Univ.)
19:15-20:05 Dharma Talk by Mr. Dosho Saikawa (Zen Priest of Sojiji Temple)
20:15 Zazen Session
20:45 Explanation and Instruction of Morning Service
21:00 Light out
20th 3:30 Wake up
4:00 Morning Zazen Session
5:00 Morning Service/ Ceremony
7:00 Breakfast
8:00 Tour of Sojiji, or a discussion about Zazen

Note for Zazenkai Attendees: Bring 1)writing materials, 2)comfortable clothes for Zen practice, 3)a tooth brush, 4)a hand towel, 5)an umbrella, 6) socks (preferably white)

You could join just the lecture without having practice. In this case, however, there is no bus transportation service from Sojiji to Shinagawa Prince Hotel on you way back.

Some Useful Information

Travel information on Japan: http://www.jnto.go.jp/
Access from Narita Airport: http://www.narita-airport.or.jp/airport_e /access_e /access_index.html
Limousine bus timetable from Narita Airport to the hotel: http://www.narita-airport.or.jp/limousine/nrtdep.html

Workshop Registration Form

Please fill the registration form below and send it to the following address preferably via **EMAIL** at your earliest convenience but NOT later than June 10th to:

Yasunori Yamazaki or Ms.Chikako Kuramochi
Antiproton Workshop
Institute of Physics, University of Tokyo, Komaba
3-8-1, Komaba, Meguro-ku, Tokyo, 153-8902, Japan
tel:03-5454-6521
fax:03-5454-6433
email:pbar99@radphys4.c.u-tokyo.ac.jp

Your email or fax should be acknowledged soon. If you do not hear from us within a week, please send your email to yasunori@postman.riken.go.jp

Family Name _____ First and Middle Names _____

Title _____

Institution _____Address _____

City _____ Zip Code_____Country _____

Phone_____ Fax _____ E- mail _____

Name(s) of Accompanying Person(s)_____

	Morning session(1)		Morning session(2)		Afternoon Session(1)		Afternoon Session(2)	Evening Session
18th								19:30- **Welcome drink at Shinagawa Prince Hotel**
19th	9:00-10:45 (T.Yamazaki) **K.Komaki** (30min) Antimatter Science with Slow Antiprotons **H.Knudsen**(30min) Experimental data on ionization and energy loss for antiprotons colliding with matter **P.Krstic** (30min) Ionization of ions and atoms by slow antiprotons **A.Igarashi**(15min) Ionization of atomic hydrogen with antiprotons	coffee	11:10-13:00 (H.Knudsen) **R.Hayano** (30min) Laser spectroscopy of protonium **J.S.Cohen** (30min) Isotope effects on antiproton capture **M.Fujiwara** (30min) Muon catalyzed fusion studies with a muonic hydrogen beam at TRIUMF **K.Ohtsuki** (20min) Antiprotonic lithium atom ; formation, energy levels and stability	lunch	14:20-16:00 (A.Mohri) **K.Fine** (40min) Nonneutral plasmas and antihydrogen production **T.Ichioka** (30min) Status report on the ASACUSA antiproton trapping system **H.Totsuji** (30min) Two-Component Nonequilibrium Nonneutral Plasma in Penning-Malmberg Trap	16:00- **Z a z e n k a i at Sojiji**
20th	9:00-10:50 (J.Eades) **M.Hori**(30min) High-precision, two-photon laser spectroscopy of antiprotonic helium atoms and other experiments using ultra-low density targets **Y.Kino** (30min) Non-Adiabatic High-Precision Calculation of Antiprotonic Helium Atomcule and Determination of Antiproton Mass **V. I.Korobov** (30min) Spectroscopy of the antiprotonic atomcule **T.Koike**(20min) Nuclear absorption process in antiprotonic helium atoms	coffee	11:20-12:40 (T.Watanabe) **G.Ya.Korenman** (30min) Collisions of antiprotonic atomcules with He atoms **D.Bakalov** (30min) Density shift and broadening of the transition lines in antiprotonic helium **T.Azuma** (20min) Does a solvated antiproton exist ?	lunch	14:00-15:30 (N.Toshima) **H.Schmidt-Boecking** (30min) Comparison of multi-differential ionization cross sections in fast antiproton and proton on Helium collisions -– A proposal for future studies with a table sized PBAR-storage ring **C.D.Lin** (30min) Ionization of H and He atoms by antiprotons revisited **A.Kover** (30min) Post Collision Interaction at Proton, Antiproton - Atom Collisions	coffee	16:00-17:10 (M.Kamimura) **R.Schuch** (20min) An accurate measurement of the p mass using highly charged ions in a Penning trap **E.Morenzoni** (30min) A new low energetic muon beam and its applications **N.Kabachnik** (20min) Channeling of slow antiprotons	19:00- **Banquet at Shinagawa Prince Hotel**
21st	9:00-10:40 (D.Horvath) **M.Holzscheiter** (30min) Tests of CPT, Lorenz Invariance and the WEP with Antihydrogen **R.Schuch** (20min) Making Hbar by recombination in a Penning trap **S.Schippers** (30min) Recombination of H-like ions with electrons: a testing ground for the formation of anti-hydrogen? **P.Froelich** (20min) Hydrogen - Antihydrogen Collisions	coffee	11:00-12:30 (J.Eichler) **Panel Discussion** Antihydrogen Production & Spectroscopy **M.Inokuti** (20min) Concluding Remarks					