E97 (πAX) S. Iwata
Measurement of Pionic X Rays

E108 (πAX II) S. I wata
Measurement of Pionic X Rays

E126 (πAX III) S. Iwata
Measurement of Pionic X Rays

E146 (πAX IV) M. Iwasaki
Chemistry of π^- Mesonic Atoms

E163 (πAX V) H. Kaji
The π^-p Transfer Mechanism in Ionic Solutions and Mixed Gases

E202 (πAX VI) A. Shinohara
Behavior of Pionic Hydrogen Atoms

E97

Submitted	1981.6.11
Approved	1982.3.19
Beam line	πμ
Shift requested	100
Shift executed	17.7
Executed cycles	82[9,10]

E108

Submitted	1982.9.23
Approved	1982.10.22
Beam line	πμ
Shift requested	60
Shift executed	73.7
Executed cycles	83[1,2,3,4,5,6,7,8,9], 84[2,3]

E126

Submitted	1983.10.1
Approved	1984.2.17
Beam line	πμ
Shift requested	180
Shift executed	59.1
Executed cycles	85[2,3,4,5,6,7,8]

E146

Submitted	1986.1.28
Approved	1986.2.24
Beam line	πμ
Shift requested	60
Shift executed	39.9
Executed cycles	86[1,2,3,4]

E163

● Physics papers published in refereed journal.
○ Technical papers.
★ PhD theses.
◇ Conference and Symposium.
∗ Internal Report and others.

Submitted	1987.2
Approved	1987.2.23
Beam line	πμ
Shift requested	60
Shift executed	126.2
Executed cycles	87[3,5,6,8,9,10,11,12,13,14], 88[3,5]

E202

Submitted	(1988.9.30)
Approved	1988.11.22
Beam line	πμ
Shift requested	140
Shift executed	291.1
Executed cycles	88[11,13,14], 89[1,9,10,11,12], 90[4,5,6,7,], 91[2,3]

Papers and activities

[Legend]
- ● Physics papers published in refereed journal
- ○ Technical papers
- ★ PhD theses
- ◇ Conference and Symposium
- ∗ Internal Report and others

● N.Imanishi et al.
Chemical-Bond Dependence of Coulomb Capture of Pions in Beryllium Borides
Phys.Rev.A32 (1985) 2584.

● N.Imanishi et al.
Chemical-Bond Dependence of Coulomb Capture of Pions in Transition-Metal Borides
Phys.Rev.A35 (1987) 2044.

● N.Imanishi et al.
Chemical-Bond Dependence of Coulomb Capture of Pions in Borides of Light Elements
Phys.Rev.A35 (1987) 5244.

● N.Imanishi et al.
Chemical-Bond Dependence of Pion-Capture Ratios in Some Alkali-Metal Compounds
Phys.Rev.A37 (1988) 43.

● T.Sekine et al.
Pionic X-Ray Intensity Ratios in Chromium Compounds
J.Rad.Nucl.Chem.Lett.135 (1989) 207.

● A.Shinohara et al.
Fission and Particle Evaporation Following Stopped Negative Pion Absorption in ^{209}Bi
Nucl.Phys.A456 (1986) 701

● A.Shinohara et al.
Pionic X-ray intensities per captured negative pion in various elements
Nucl.Instr.Meth.B84 (1994) 14.

● A.Shonohara et al.
Pion transfer from hydrogen to deuterium in $H_2O + D_2O$ mixtures
Phys.Rev.A (49)

○ N.Imanishi et al.
Rotating-Wheel Detector System for Measuring Millisecond Half-Life High-Energy β Emitters

---

● Physics papers published in refereed journal.
○ Technical papers.
★ PhD theses.
◇ Conference and Symposium.
∗ Internal Report and others.

Nucl.Instr.Meth.A240 (1986) 323.
○ N.Imanishi et al.
A Molecular Effect of Hydrogen Trapping in the Implantation of Molecular Hydrogen Ions into Aluminum and Aluminum Oxide
J.Appl.Phys. 61 (1987) 5485.
○ N.Imanishi et al.
Measurements of Probability for Pion Capture by Hydrogen in Gas Mixtures
Nucl.Instr.Meth. A261 (1987) 465.
★ A. Shinohara
Atomic Cascades in Pionic Atoms and the Successive Pion Absorption Reaction
Osaka University, 1985
◇ S.Iwata
A New Application of Negative Mesons to Probe Electronic Structure of Complex Materials in Situ
The 1984 Int'l Chemical Congress of Pacific Basin Societies, Honolulu, U.S.A., Dec. 16-21, 1984
◇ N.Imanishi et al.
A Model on the Coulomb Capture of Mons or Pions in Hydrides
Tenth Int'l Conf. on Atomic Physics, Tokyo, August 25-29, 1986
◇ N.Imanishi et al.
Chemical-Bond Dependence of Coulomb Capture of Pions in Borides
13th Int'l Hot Atom Chemistry Symp. (IHACS) MT.Fuji, May 24-29, 1987
◇ A.Shinohara et al.
Chemical Effect of Pion-Capture Rations in Some Complex Molecules
The 1989 Int'l Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii, U.S.A., Dec.17-22, 1989, INORO 5-325.
◇ N.Imanishi
Molecular-Structure Dependence of Coulomb Capture Ratio of Pions in Chemical Compounds
The 1989 Int'l Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii, U.S.A., Dec. 17-22, 1989, INORO 5-641.
◇ T.Saito et al.
Measurement of Atomic Capture Probabilities of Negative Pions in Metal Hydrides
UN3PC92 (RIKEN International Symposium), 31 Aug.- 1 Sept. 1992, To be published in Hyperfine Interactions
◇ A.Shinohara et al.
Measurements of Transfer Process in Pion Capture by a Series of Alcohols
RIKEN Int'l Symp. on "Unstable Nuclei and Particles as Probes in Physics and Chemistry" 131 Aug.- 1 Sept. 1992, To be published in Hyperfine Interactions
∗ N.Imanishi et al.
Mesonic Atoms and Molecular Structure (1), Coulomb Capture Process-Beryllium Borides
Genken-Iho, 64 (1983) 36.
∗ N.Imanishi et al.
Mesonic Atoms and Molecular Structure (2), Bond Ionicity-Beryllium Borides
Genken-Iho, 64 (1983) 37.
∗ N.Imanishi et al.
Mesonic Atoms and Molecular Structure (3), X-ray Spectra-Chromium Borides
Genken-Iho, 65 (1984) 38.
∗ N.Imanishi et al.
Mesonic Atoms and Molecular Structure (4), Coulomb Capture Ratios-Chromium Borides
Genken-Iho, 65 (1984) 39.
∗ N.Imanishi et al.
Mesonic Atoms and Molecular Structure (5), X-ray Spectra-Iron Borides and Nickel Borides
Genken-Iho, 66 (1984) 31.
∗ N.Imanishi et al.

● Physics papers published in refereed journal.
○ Technical papers.
★ PhD theses.
◇ Conference and Symposium.
∗ Internal Report and others.

Mesonic Atoms and Molecular Structure (6), Coulomb Capture Ratio-Iron Borides and Nickel Borides
Genken-Iho, 66 (1984)32.

* N.Imanishi et al.
Application of Mesonic Atoms (1), Measuring System for X-ray from Mesonic Atoms
Genken-Iho, 63 (1983) 27.

* N.Imanishi et al.
Application of Mesonic Atoms (2), Dependence of Coulomb Capture Process on Chemical Structure
Genken-Iho, 63 (1983) 28.

* N.Imanishi et al.
Mesonic Atoms and Molecular Structure (7), X-ray Spectra-Orbital Angular Momentum
Genken-Iho, 67 (1985) 38.

* N.Imanishi et al.
Mesonic Atoms and Molecular Structure (8), X-ray Spectra-Orbital Angular Momentum
Genken-Iho, 68 (1985) 36.

* N.Imanishi et al.
Mesonic Atoms and Molecular Structure (9), X-ray Spectra-Orbital Angular Momentum
Genken-Iho, 69 (1986) 47.

* H.Baba et al.
Fission and Particle Emission of 209 Bi by the Capture of the Stopped Negative Pions
Genshikaku Kenkyu, 29 (1985) 79.

* N.Imanishi et al.
Mesonic Atoms and Molecular Structure (10), (Detection of Mesonic Hydrogen Atom).
Genken-Iho, 70 (1986) 40.

* N.Imanishi et al.
μ-ryushi shokubai kaku-yugo(μCF) saikuru ni okeru fujunbutsu no eikyo
Showa 61-nendo, Kagaku-kenkyu-hi Hojokin, Kenkyu Seika Houkokusho, 1987

* N.Imanishi et al.
Mesonic Atoms and Molecular Structure (11), (Lithium Hydride)
Genken-Iho, 70 (1986) 41.

* N.Imanishi et al.
Mesonic Atoms and Molecular Structure (12), (Hydroxides)
Genken-Iho, 71 (1987) 51.

* N.Imanishi et al.
Mesonic Atoms and Molecular Structure (13), (Coulomb Capture)
Process of Pions in Hydrides
Genken-Iho, 71 (1987) 52.

* Y.Takeuchi et al.
Behavior of Hydrogen Isotopes in Surface Region of Materials (10) (Dependence on Implatation Temperature)
Genken-Iho, 72 (1987) 43.

* Y.Takeuchi et al.
Behavior of Hydrogen Isotopes in Surface Region of Materials (11) (Trapping Mechanism)
Genken-Iho, 72 (1987) 44.

* N.Imanishi et al.
Measurement of the Probability for Pion Capture by Hydrogen in Gas Mixture (1)
(Experimental Setup)
Genken-Iho, 72 (1987) 40.

* N.Imanishi et al.
Measurement of the Probability for Pion Capture by Hydrogen in Gas Mixture (2)
(Performance of Experimental Setup)
Genken-Iho, 72 (1987) 41.

● Physics papers published in refereed journal.
○ Technical papers.
★ PhD theses.
◇ Conference and Symposium.
* Internal Report and others.

∗ N.Imanishi et al.
Measurement of the Probability for Pion Capture by Hydrogen in Gas Mixture (3)
(Gas Mixtures, H_2+CO, H_2+N_2)
Genken-Iho, 72 (1987) 42.

● Physics papers published in refereed journal.
○ Technical papers.
★ PhD theses.
◇ Conference and Symposium.
∗ Internal Report and others.