

# 第30回放射化学討論会

## 講演発表

○印は連名の場合の口頭発表者  
講演時間20分（講演15分，討論5分）

10月22日(水)

### 特別講演会場(H)

座長 坂本 浩 (13:20~14:20)

特別1 Radiogeochemistry: 1936 - 1986  
(アーカンソー大, USA) P. K. Kuroda

### A会場

〔核反応〕

座長 中原弘道 (9:40~10:40)

- 1A01  $^{197}\text{Au}$ の光核反応 —核破碎と核分裂—  
(金沢大理・東大核研\*・追手門学院大\*\*・名大理\*\*\*) ○深澤拓司・吉田学・  
長田和彦・小林一人・櫛瀬 彰・浜島靖典・坂本 浩・柴田誠一\*・今村峯雄\*・  
藤原一郎\*\*・古川路明\*\*\*
- 1A02 Cuの光核破碎反応(II)  
(東大核研・金沢大理\*・追手門学院大\*\* ) ○柴田誠一・今村峯雄・宮地 孝・武  
藤正文・坂本 浩\*・浜島靖典\*・外 大\*・窪田康弘\*・吉田 学\*・藤原一郎\*\*・
- 1A03 光核破碎反応のシステマティクス (Rudstam式のパラメーター)  
(金沢大理・東大核研\*・追手門学院大\*\*・名大理\*\*\*) ○吉田 学・窪田康浩・  
深澤拓司・長田和彦・小林一人・櫛瀬 彰・浜島靖典・坂本 浩・柴田誠一\*・  
今村峯雄\*・藤原一郎\*\*・古川路明\*\*\*

座長 畑 健太郎 (10:50~12:10)

- 1A04 Lu-175とAu-197の( $r, \pi^- \cdot xn$ )反応  
(金沢大理・東大核研\*・追手門学院大\*\*・名大理\*\*\*) ○浜島靖典・吉田 学・  
深澤拓司・長田和彦・小林一人・櫛瀬 彰・坂本 浩・柴田誠一\*・今村峯雄\*・  
藤原一郎\*\*・古川路明\*\*\*
- 1A05 放射化法によるTWO-MODE FISSIONの検証  
(阪大理) ○若松智之・斎藤 直・横山明彦・篠原 厚・庄司正秀・高橋成人・吉  
崎信樹・馬場 宏
- 1A06 重イオン核融合反応断面積と高い角運動量下での核分裂障壁  
(阪大理・原研\*) ○横山明彦・馬場澄子\*・馬場 宏
- 1A07 重イオンによる $^{209}\text{Bi}$ ,  $^{208}\text{Pb}$ 及び $^{207}\text{Pb}$ の核分裂  
(阪大理・都立大理\*・金沢大理\*\*・追手門学院大\*\*\*・名大理\*\*\*\*) ○篠原 厚・

齋藤 直・高橋成人・横山明彦・庄司正秀・若松智之・杜 明進・吉崎信樹・鹿  
取謙二・馬場 宏・末木啓介\*・初川雄一\*・浜島靖典\*\*・藤原一郎\*\*\*・古川路  
明\*\*\*\*

<昼休み・放射化学研究連絡委員会>

(特別講演 1)

座長 齋藤 直 (14:30~15:50)

- 1A08 Biの $\alpha$ 誘導核分裂  
(金沢大理・都立大理\*・理研\*\*)○浜島靖典・大槻 勤\*・初川雄一\*・末木啓  
介\*・中原弘道\*・河野 功\*\*
- 1A09  $^{209}\text{Bi}+^{20}\text{Ne}$ の反応における核分裂  
(新潟大理・都立大理\*)○堀越裕三・藤本 光・工藤久昭・初川雄一\*・橋本哲  
夫・外林 武
- 1A10 軽質量系の重イオン核反応における質量分割  
(都立大理・理研\*・信大繊維\*\*)○末木啓介・中原弘道・河野 功\*・松瀬丈浩\*\*
- 1A11 アクチノイド元素の低エネルギー核分裂における質量収率曲線の形状  
(都立大理・理研\*・原研\*\*)○大槻 勤・末木啓介・中原弘道・河野 功\*・篠  
原伸夫\*\*・間柄正明\*\*・永目諭一郎\*\*

座長 関根 俊明 (16:00~17:00)

- 1A12  $^{237}\text{Np}$ の陽子誘起核分裂の励起関数  
(都立大理・理研\*)○大槻 勤・末木啓介・初川雄一・中原弘道・河野 功\*
- 1A13 IGISOLの開発  
(理研・東大核研\*・東北大サイクロ\*\*・都立大理\*\*\*・筑波大<sup>o</sup>・新潟大理<sup>o</sup>)森田  
浩介・稲村 卓・野村 享\*・田中仁市\*・宮武宇也\*・藤岡 学\*\*・篠塚 勉\*\*・  
浜 広幸\*\*・吉井正人\*\*・田口和博\*\*・末木啓介\*\*\*・初川雄一\*\*\*・古野興平<sup>o</sup>・  
○工藤久昭<sup>o</sup>
- 1A14 「 $^{209}\text{Bi}+^{16}\text{O}$ ,  $^{20}\text{Ne}$ 反応」核子移行反応を中心として  
(新潟大理・東大核研\*・都立大理\*\*・原研\*\*\*)○工藤久昭・堀越裕三・橋本哲夫・  
外林 武・野村 享\*・末木啓介\*\*・初川雄一\*\*・間柄正明\*\*\*

座長 工藤 久昭 (17:10~18:10)

- 1A15  $^3\text{He}+^{197}\text{Au}$ 反応系における核子移行過程  
(阪大理)庄司正秀・○齋藤 直・篠原 厚・横山明彦・若松智之・馬場 宏
- 1A16  $^{37}\text{Cl}+^{103}\text{Rh}$ 反応系における核子移行反応  
(原研・阪大理\*)馬場澄子・○畑健太郎・関根俊明・松岡弘充・永目諭一郎・横  
山明彦\*
- 1A17 複合核 $^{105}\text{Ag}$ の生成とその崩壊について  
(原研・阪大理\*)○永目諭一郎・間柄正明・横山明彦\*・松岡弘充・関根俊明・  
畑健太郎・馬場澄子

<核化学グループの会(18:40~20:40)>

## B会場

### 〔放射化分析〕

座長 中西 孝 (9:40~11:00)

- 1B01 石英粒子からの赤色および青色熱蛍光発光について  
(新潟大理)橋本哲夫・○横坂恭一・葉葺久尚
- 1B02 岩石試料中の微量ヨウ素の中性子放射化分析  
(群馬大教養\*・群馬大工)海老原充\*・赤岩英夫・○斉藤直美
- 1B03 花崗岩類の分析化学的研究(第2報)近畿地方の花崗岩類  
(奈良教育大)○三辻利一・杉 直樹・黒瀬雄士・吉田和美・有司知佳子
- 1B04 中性子放射化-液液抽出分離法による原子炉材料及びLSI構成材料中のppbレベルのウランとトリウムの定量  
(原研・放照協\*)○米沢伸四郎・星 三千男・立川円造・山本克宗・上沖 寛\*

座長 三辻利一 (11:10~12:10)

- 1B05 放射化分析による串木野地区の金の分布  
(青学大理工・地調\*)○佐々木祐二・平尾良光・木村 幹・森下祐一\*
- 1B06 荷電粒子放射化分析法によるアルミニウム中の炭素の定量  
(理研・日軽技研\*)○佐藤和広・泉 巖\*・野崎 正
- 1B07 荷電粒子放射化分析法を用いたMg中のCの定量  
(都立大理・東大核研\*・東邦大理\*\*・理研\*\*\*・古河マグネシウム\*\*\*\*)○吉川英樹・中原弘道・今村峯雄\*・佐藤和広\*\*・三浦太一\*\*\*・野崎 正\*\*\*・木村守一\*\*\*\*

### <昼休み・若手研究者の会総会>

(特別講演1)

座長 日下 譲 (14:30~15:50)

- 1B08 鉄鋼及び銅金属中の微量炭素の光量子放射化分析  
(三菱金属中研・東北大核理研\*)○吉岡 明・野村紘一・竹谷 実・志村和俊・八木益男\*・榎本和義\*
- 1B09 内標準法を応用した血清試料中のP, Cl, KおよびCaの荷電粒子放射化分析  
(東北大核理研)○八木益男・榎本和義
- 1B10 土壌試料の内標準法による多元素光量子放射化分析  
(東北大核理研)○榎本和義・八木益男
- 1B11 土壌標準試料の放射化分析による多元素同時定量  
(明大農・都立大理\*)○塚田正道・大槻 勤\*・矢永誠人\*・遠藤和豊\*・中原弘道\*

座長 木村 幹 (16:00~17:00)

- 1B12 複写機用トナーの中性子放射化分析  
(科警研)○岸 徹・角田紀子・灘野大太・大木 博
- 1B13 日本の古代遺跡における朝鮮半島産陶質土器の検出(第3報)  
小路古墳, 星塚古墳(奈良県)  
(奈良教育大・京大原子炉\*)○三辻利一・中野幸宏\*・西川佳寛・伊藤尚志・山尾みどり

- 1B14 5～6世紀の大阪陶邑産須恵器の分布(第4報)お花山古墳群(山形県)の須恵器  
(奈良教育大)○三辻利一・岡井 剛・杉 直樹・大津裕一

座長 榊本和義 (17:10~18:30)

- 1B15 INAAによるヒト血清および血球中の微量元素分析(病態解析へのアプローチ)  
(弘前大教育・東大原セ\*・弘前大医\*\*)○秋葉文正・高野武美\*・蝦名裕\*\*・  
今 充\*\*

- 1B16 放射化分析による生物試料中の有害元素(Hg, Se, As, Sb, Crなど)の定量とその問題  
点

(放医研)村松康行

- 1B17 中性子放射化分析法によるリョウブ標準試料のアルミニウムの定量  
(近畿大理工・京大原子炉\*)○水本良彦・日下部俊男・笹島和久\*・玉井忠治\*・  
岩田志郎\*

- 1B18 二枚貝の貝殻形成における微量元素の挙動  
(愛知教大・都立科技大\*)○吉岡小夜子・寺井 稔\*

<放射化分析グループの会(18:40~20:40)>

## C会場

(ホットアトム化学)

座長 泉水義大 (9:40~10:40)

- 1C01 トリチウム原子とトリフルオロエチレンの反応(1) トリフルオロエチルラジカル中のフッ  
素原子の1,2-シフト

(東工大原子炉研)○小高正敬・小比田智之・佐藤 伸

- 1C02 トリチウム原子とトリフルオロエチレンの反応(2) C<sub>4</sub>・反応生成物について

(東工大原子炉研)○小比田智之・小高正敬・佐藤 伸

- 1C03 <sup>3</sup>H標識シトシンのβ壊変にともなう化学的効果-II

(大放研)○朝野武美・桐谷玲子・藤田慎一

座長 荘 司 準 (10:50~12:10)

- 1C04 反跳インプラントーションによる化学反応機構:反跳置換と競争反応

(東北大理)○吉原賢二・関根 勉・佐野正明

- 1C05 反跳重陽子を利用した<sup>13</sup>N/マロン酸-d<sub>4</sub>系の反応

(立教大一般教育・立教大原研\*)○泉水義大・戸村健児\*・増谷民雄\*

- 1C06 反跳硫黄原子, <sup>35</sup>Sおよび<sup>37</sup>S,と二硫化炭素との反応

(北里大・立教大原研\*)○新沢和裕・松浦辰男\*・瀧 幸

- 1C07 生体関連物質の<sup>3</sup>He(n, p)<sup>3</sup>H反応による反跳トリチウム化

(東大RIセ・東大農\*・静岡大理\*\*・原研\*\*\*)○野川憲夫・大橋國雄・草間慶  
一\*\*・渡部終五\*・佐藤之紀\*・松岡弘充\*\*\*・茂木照十三\*\*\*・守屋 孝\*\*\*・  
橋本周久\*・森川尚威

<昼 休 み>

(特別講演1)

座長 関根 勉 (14:30~15:30)

- 1C08  $\text{Li}_2\text{O}$ 結晶中におけるトリチウムの存在状態と化学挙動  
(原研)○工藤博司・奥野健二
- 1C09 リン酸銀中( $^{111}\text{In} \rightarrow$ ) $^{111}\text{Cd}$ のTDPAC  
(理研)浅井吉蔵・○安部静子・岡田卓也・安部文敏
- 1C10 TDPACによる $\alpha\text{-Fe}_2\text{O}_3$ 中における $^{111}\text{In}$ のEC壊変の化学効果  
(理研)浅井吉蔵・○安部文敏・安部静子・岡田卓也・関沢 尚

座長 松浦辰男 (15:40~17:00)

- 1C11 サムピーク法による摂動角相関現象の生体関連試料への応用  
(福島医大・東北大金研\*・東北大理\*\*)○工藤 哲・土橋宣昭・油井徳雄・三頭  
聡明\*・鍛冶東海\*\*・吉原賢二\*\*
- 1C12  $\gamma$ 線スペクトロメトリーにおけるサム効果とその補正  
(阪大理・原研\*)○桜庭洋介・横山明彦・斎藤 直・馬場 宏・馬場澄子\*
- 1C13 固相テトラフェニルポリフィリンにおける反跳トリチウムの反応 III  
薄膜を用いた反跳トリチウム反応  
(東北大理)○伊澤郡蔵・関根 勉・吉原賢二
- 1C14 水溶性ポリフィリン錯体会合系固相における反跳化学  
(筑波大化)小川公也・○荘司 準・池田長生

座長 工藤博司 (17:10~18:10)

- 1C15 コバルトフタロシアニオン-亜鉛フタロシアニオン混晶系のホットアトム化学  
その基本的な様相  
(筑波大化)○沖 雄一・荘司 準・池田長生
- 1C16  $\text{Cr}(\text{acac})_3$ における $^{55}\text{Cr}$ のホットアトム化学とリテンション値の同位体効果  
(立教大原研・名大理\*)○松浦辰男・栗原英明・永原照明・佐々木研一\*
- 1C17 X- $\gamma$ 同時計数メスバウアー分光法による, EC過程の研究  
(都立大理・高工研\*)○渡辺裕夫・遠藤和豊・佐野博敏・村松久和\*

<ホットアトム化学グループの会(18:40~20:40)>

10月23日(木)

## 特別講演会場(H)

座長 佐野博敏 (15:00~16:00)

- 特別2  $^{57}\text{Fe}$  Mössbauer Spectroscopic Studies of Electronically Labile Transition  
Metal Compounds  
(イリノイ大) D. N. Hendrickson

## A会場

[核壊変]

座長 馬場 宏 (9:00~10:00)

- 2A01  $^{48}\text{Mn}$ の崩壊  
(GSI・原研\*・ミシガン大\*\*)○関根俊明\*・J. Cerny・R. Kirchner・  
O. Klepper・V. T. Koslowsky・A. Plocki・E. Roeckl・D. Schardt・  
B. Sherrill・B. A. Brown\*\*

2A02 <sup>245</sup>Cfの崩壊  
(原研・都立大理\*・広島大理\*\*・東大核研\*\*\*・追手門学院大\*\*\*\*)○間柄正明・  
篠原伸夫・臼田重和・市川進一・鈴木敏夫・岡下 宏・吉川英樹\*・岩田洋世\*\*  
堀口隆良\*\*・柴田誠一\*\*\*・藤原一郎\*\*\*\*

2A03 奇偶核アインスタイニウム同位体の崩壊特性  
(都立大理・理研\*)○初川雄一・大槻 勤・塚田和明・末木啓介・中原弘道・河  
野 功\*

〔メスバウアー効果〕

座長 高島良正 (10:10~11:10)

2A04 鉄およびスズ化合物の<sup>6</sup>Li(n,α)T反応に伴う化学的効果

(都立大理)○佐藤琢真・片田元己・佐野博敏

2A05 硫酸塩中での<sup>57</sup>CoのEC崩壊の後遺効果

(滋賀医大)○小林隆幸・牧田知子

2A06 マイクロチャンネルプレートを検出器として使用した散乱電子メスバウアースペクトル  
の測定とその応用

(東理大理・東大理\*)○佐藤春雄・太田俊也・大林千絵\*・富永 健\*

座長 市坂純雄 (11:20~12:20)

2A07 ルテニウムのメスバウアー分光学的研究(I)

(都立大理・理研\*)○小林義男・片田元己・佐野博敏・岡田卓也\*・浅井吉蔵\*・  
安部静子\*・安部文敏\*

2A08 マトリックス単離した化学種のメスバウアー分光法による研究(8)

パルス法により生成したN<sub>2</sub>マトリックス中のFe(CO)<sub>x</sub>の反応

(東大理)○山田康洋・富永 健

2A09 ゼネライトに担持された鉄化合物の同定と触媒作用

(九大理)○前田米蔵・川崎智美・高島良正

<昼 休 み>

(ポスターセッション)

(特別講演2)

座長 前田米蔵 (16:10~17:10)

2A10 中国新疆ウィグル自治区地質考古試料の<sup>57</sup>Feメスバウアースペクトル

(理研・新疆生物土壤沙漠研\*)○安部文敏・安部静子・黄 子蔚\*・野崎 正

2A11 メスバウアー分光法による大気浮遊粉塵の状態分析

(東工大総理工)○松尾基之・小林孝彰

2A12 転換電子メスバウアースペクトロメトリーによるB<sup>+</sup>, C<sup>+</sup>イオン注入鉄薄膜の解析

(東大工)○藤浪真紀・氏平祐輔

座長 遠藤和豊 (17:20~18:20)

2A13 α-Fe<sub>2</sub>O<sub>3</sub>中の<sup>119</sup>Snのメスバウアー効果

(広島大理)○山田康治・浅原優一・勝村昌史・市坂純雄

2A14 メスバウアー分光法によるFe<sub>3</sub>O<sub>4</sub>-Sn系の研究

- (広島大理・京大原子炉\*)○市坂純雄・勝村昌史・酒井 宏\*
- 2 A 1 5 金の表面に電着した<sup>119</sup>Sbのメスバウアースペクトル  
(理研・阪大基礎工\*)○安部静子・安部文敏・岡田卓也・田中 功\*・那須三郎\*・  
藤田英一\*

## B会場

〔放射化分析〕

座長 平井昭司 (9:00~10:00)

- 2 B 0 1 河川水中の微量元素の溶存形態  
(東京都アイソトープ研)○谷崎良之・山崎正夫・下川利成
- 2 B 0 2 陸水の放射化分析  
— 貯水池水溶存成分の垂直分布 —  
(甲南大理・大放研\*)○辻 治雄・玉利祐三・日下 譲・溝畑 朗\*
- 2 B 0 3 堆積物中における放射性核種と微量金属元素の分布と挙動  
(九大RIセ・九大理\*)○杉原真司・大崎 進・福村浩隆\*・百島則幸\*・高島良正\*

座長 橋本哲夫 (10:10~11:10)

- 2 B 0 4 放射化分析用 $\gamma$ 線スペクトル収集プログラムの開発  
(武蔵工大原研)○鈴木章悟・松本妃代・平井昭司
- 2 B 0 5 武蔵工大炉の燃料棒交換後の中性子束密度  
(武蔵工大原研)平井昭司・○岡田往子・鈴木章悟・松本妃代・堀内則量・相沢乙彦・野崎徹也・松本哲男・小林佳代子・青木くみ子
- 2 B 0 6 Li同位体(<sup>6</sup>Li, <sup>7</sup>Li)の近畿大原子炉照射によるトリチウムの生成とその利用  
(金沢大LLRL)○齋 幹夫・阪上正信

座長 小山睦夫 (11:20~12:20)

- 2 B 0 7 不足当量分析法の確度・精度の検討(1) 放射化分析法  
(NTT茨城研)○重松俊男・加藤正明・米沢洋樹・鹿野弘二
- 2 B 0 8 不足当量分析法の確度・精度の検討(2) RI添加法  
(NTT茨城研)○加藤正明・重松俊男・鹿野弘二・米沢洋樹
- 2 B 0 9 不足当量分析法によるLa化合物中のNdの定量  
(NTT茨城研)○加藤正明・重松俊男・鹿野弘二・米沢洋樹

<昼 休 み>

(ポスターセッション)

(特別講演2)

〔中間子化学〕

座長 伊藤泰男 (16:10~17:30)

- 2 B 1 0 クロム及びクロム化合物のpionic X-rayの強度比測定  
(東北大理・京大原研\*・高工研\*\*)○関根 勉・橋本和幸・鍛冶東海・吉原賢二・  
今西信嗣\*・吉村喜男\*\*
- 2 B 1 1 負ミュオンの原子捕獲過程に対する化学効果—酸素・塩素を含む化合物

(東大理・理研\*)○久保謙哉・酒井陽一・富永 健・石田勝彦\*・西山樟生・永嶺謙忠

2B12 中間子水素原子の検出

(京大原研・阪大理\*・東北大理\*\*・高工研\*\*\*)今西信嗣・宮本伸一・竹内由佳・豊田勝也・○篠原 厚\*・鍛冶東海\*\*・吉村喜男\*\*\*

2B13 中間子原子と分子構造

— 水素含有化合物 —

(京大原研・阪大理\*・東北大理\*\*・高工研\*\*\*)今西信嗣・宮本伸一・竹内由佳・豊田勝也・○篠原 厚\*・鍛冶東海\*\*・吉村喜男\*\*\*

座長 岩田志郎 (17:40~18:40)

2B14 トリス(アセチルアセトナト)金属錯体結晶における正ミュオンの挙動の $\mu$ SR法による研究

(東大理)○酒井陽一・久保謙哉・富永 健・西山樟生・永嶺謙忠

2B15 正ミュオンスピン共鳴法の中間子化学における利用

(東大原セ・東大工\*・東大理中間子\*\*)○伊藤泰男・東 俊行\*・田畑米穂\*・西山樟生\*\*・永嶺謙忠\*\*

2B16 陽電子消滅によるゼオライト空孔の測定

(東大原セ・東北大金研\*)○伊藤泰男・長谷川雅幸\*

## C会場

〔放射化学分析・トレーサー利用〕

座長 長谷川 瓘 彦 (9:00~10:00)

2C01 無機陰イオンを配位子とする放射性核種の非イオン性高分子吸着体への吸着現象(その1) — 放射化学分析利用への考察 —

(放医研・原電\*)○柴田貞夫・渡利一夫・今井靖子・伊澤正實\*

2C02 金の取率トレーサーの調製と利用

(青学大理工)○斎藤裕子・上野 隆・吉原 剛・平尾良光・木村 幹

2C03 有機化合物への誘導体化とイオン対抽出を用いる新しい不足当量分析法

— 生物体試料中のイオウの定量への適用 —

(東北大理)○岩田吉弘・井村久則・鈴木信男

座長 柴田 貞 夫 (10:10~11:10)

2C04 ベンズアルデヒドのホルミル基の反応性の速度論的考察

(新潟大工)岡田 實・今泉 洋・○内田和仁

2C05 ウラシルにおける放射線誘発水素同位体交換反応

(静岡大理)○長谷川瓘彦・高木 忍

2C06 t-ブチルアンモニウムイオンの水素同位体効果

(阪大工)○西沢嘉寿成・青柳美奈子

〔消滅元素の化学〕

座長 天野 良 平 (11:20~12:20)

2C07  $^{143}, ^{144}\text{Pm}$ の製造とその溶液化学への応用



(東北大金研・三菱重工\*・関電工\*\*)○佐藤伊佐務・三頭聡明・野村 晃・鈴木進・富山寿治\*・森井紀雄\*\*

2C08  $^{99}\text{Tc}$ -チオ尿素錯体を用いた $^{99}\text{Tc}$ - $\beta$ -ジケトン錯体合成の試み  
(東北大理)○橋本和幸・大森 巍・吉原賢二

2C09 クロロビス( $\beta$ -ジケトナト)オキソテクネチウム(V)錯体の塩基加水分解機構  
(東北大理)山田容子・○大森 巍・吉原賢二

<昼 休 み>

(ポスターセッション)

(特別講演 2)

〔放射化学分析・トレーサー利用〕

座 長 枋 山 修 (16:10~17:10)

2C10 単体硫黄と二硫化炭素の硫黄同位体交換反応  
(北里大衛生)○小川幸次・瀧 幸

2C11 Redox Sub-and Super-Equivalence 法による微量タリウムの同位体希釈分析  
(静岡大理)○吉岡潤江・長谷川罔彦・森下寿博

2C12 同位体希釈分析法によるDNAの定量(その2)  
(静岡大理)吉岡潤江・○久田達也・吉永光一・長谷川罔彦

〔加速器とその応用〕

座 長 野 崎 正 (17:20~18:20)

2C13 タンデム加速器を用いる超微量放射性核種の検出(5)——考古学試料への応用  
(東大理・東大原セ\*・日大文理\*\*・東大核研\*\*\*・都立大理<sup>o</sup>)○吉田邦夫・小林  
紘一\*・永井尚生\*\*・今村峯雄\*\*\*・吉川英樹<sup>o</sup>・沖崎昌平\*・小林貴之\*\*・八木進  
午\*\*・本田雅健\*\*・山下 博

2C14 タンデム加速器を用いる超微量放射性核種の検出(6)—— $^{26}\text{Al}$ の測定  
(日大文理・東大核研\*・東大理\*\*・東大原セ\*\*\*・都立大理<sup>o</sup>)○永井尚生・今村  
峯雄\*・吉田邦夫\*\*・小林紘一\*\*\*・八木進午・小林貴之・沖崎昌平・吉川英樹<sup>o</sup>  
・柴田誠一\*・本田雅健・山下 博\*\*

2C15 鉄隕石中微量成分の分布  
(日大文理・丸文KK\*)○本田雅健・永井尚生・島村 匡\*・秋沢 繁・鴨川忠  
生・小林洋一

P会場 (ポスター発表, 13:00~14:50)

座 長 鈴 木 進

〔 $\alpha$ 放射体の化学等〕

紹介講演 井 上 泰 (13:20~13:35)

P01 HF-SbF<sub>5</sub>溶媒におけるウランの化学的挙動の研究(1) 装置の組立とウラン溶液の調製  
(東北大金研)○杉山 剛・原 光雄・鈴木 進

P02 ピラゾロン誘導体と四級アルキルアンモニウムをもちいるNp(V)の溶媒抽出  
(東北大工)井上 泰・枋山 修・○黒木有一

P03 燃焼率測定のためのネオジウム及び超プルトニウム元素の硝酸-アルコール混合溶媒によ

- る陰イオン交換分離  
 (原研)○白田重和・間柄正明
- P 0 4 抽出クロマトグラフ法によるアクチノイドの分離  
 (原研)○木村貴海・吾勝常勲
- P 0 5 吸着法によるプルトニウム酸化状態の分離  
 (東大理・フロリダ州立大\*)○小橋浅哉・G. R. Choppin\*
- P 0 6 海水中におけるプルトニウム酸化状態の安定性  
 (東大理・フロリダ州立大\*)○小橋浅哉・G. R. Choppin\*
- P 0 7 環境土壌中の<sup>237</sup>Np, <sup>241</sup>Am, Pu 同位体の逐次定量  
 (金沢大理 LLRL)○茶谷和秀・山本政義・小村和久・阪上正信
- P 0 8 リン鉱石中のウラン系列核種について(5) — 4 価及び 6 価のウランの分布について —  
 (東邦大理・明治大工\*)○高田 稔・斎藤信房・佐藤 純\*
- P 0 9 岩石・鉱物—合成地下水間における $\alpha$ 放射体の分配  
 (金沢大理・動燃\*・原安協\*\*)○中西 孝・蓮野正男・奥野孝晴\*・矢部一郎\*\*
- P 1 0 水道水の浄水過程における天然ウラン同位体の挙動について  
 (新潟大理・新潟市水道局\*)○橋本哲夫・渡辺順一・外林 武・山垣浩司\*・本間  
 悟\*
- P 1 1 人体中のトリウム定量  
 (筑波大化)○五十嵐康人・関 李紀・池田長生
- P 1 2 中性子放射化分析法による半導体材料中の微量 U, Th の定量  
 (武蔵工大原研)○平井昭司・鈴木章悟・岡田往子・松本妃代・早川泰弘
- P 1 3 内部転換電子によるアクチノイド核種の測定法の検討  
 (東北大金研)鈴木 進・塩川佳伸・○鈴木克彦
- P 1 4 自動放射線計測システムの開発  
 (東北大核理研)○榎本和義・八木益男
- P 1 5 <sup>52</sup>Cr ( $\gamma, n$ )<sup>51</sup>Cr 反応による薄膜からの反跳インプランテーション反応  
 (東北大理)○宮川 篤・関根 勉・吉原賢二
- P 1 6 系統分類における微量元素の分布パターン  
 (都立科技大・愛知教大\*・北里大衛生\*\*)○寺井 稔・吉岡小夜子\*・安福慎一\*\*

〔ソ連原子炉事故に伴う降下物〕

紹介講演 杉 村 行 勇 (13:35~13:50)

- P 1 7 筑波の大気中で観測されたチェルノブイリ原子力発電所事故に由来する放射性核種とその時間変動  
 (気象研)青山道夫・○廣瀬勝己・井上久幸・鈴木 款・杉村行勇
- P 1 8 チェルノブイリ原子力発電所事故に由来する日本各地の $\gamma$ -放射体降下量の解析  
 (気象研)青山道夫・廣瀬勝己・○杉村行勇
- P 1 9 チェルノブイリ原子力発電所事故による大気中放射性核種の物理的ならびに化学的挙動  
 (核医研)○阿部道子・阿部史朗
- P 2 0 ヨウ素集積性陸上植物とチェルノブイリ由来の<sup>131</sup>I  
 (京大原子炉)○小山陸夫・高田実弥・松下緑治・松原 丘
- P 2 1 チェルノブイリ原子力発電所事故にともなう放射性フォールアウトについて—<sup>129</sup>Iを含む放射性核種の検出  
 (新潟大理・新潟薬科大\*)○橋本哲夫・酒井裕二・野中雅史・工藤久昭・  
 外林 武・村上直行\*

- P 2 2 ソ連原発事故のフォールアウト(1)  $\gamma$ 線放出核種の含有量および時間変化  
(名大理セ・名大理\*)○小島貞男・神谷 晶\*・古川路明\*
- P 2 3 ソ連原発事故のフォールアウト(2) ストロンチウム及びセリウム同位体の含有量  
(名大理・名大理セ\*)○神谷 晶・小島貞男\*・古川路明
- P 2 4 ソ連原子力発電所事故による環境試料中の人工放射性核種の測定  
(宮城県原子力セ・宮城県庁\*)○菊地秀夫・石川陽一・末永紳一・佐藤健一・  
佐藤信俊・湯田和郎・中村栄一\*
- P 2 5 チェルノブイリ原発事故に由来する環境中の放射性Cs同位体比について  
(東北大金研・宮城県原子力安全対策室\*・宮城県原子力セ\*\*)○三倉通孝  
三頭聡明・鈴木 進・滝島哲男\*・菊地秀夫\*\*・石川陽一\*\*
- P 2 6 チェルノブイリ原子炉事故に起因する環境中の放射性核種の濃度と化学形態  
(放医研)村松康行・大桃洋一郎

10月24日(金)

## A会場

(メスbauer効果)

座長 富永 健 (9:00~10:00)

- 3 A 0 1 ハロゲノビス(ジチオカルバマト)アンチモン(Ⅲ)錯体の<sup>121</sup>Sbメスbauerスペクトル  
(東邦大理)○大山隆一・高橋 正・竹田満洲雄
- 3 A 0 2 有機アンチモン(V)化合物のメスbauer分光及びNMRによる研究  
(都立大理・都立大教養\*・理研\*\*・東邦大理\*\*\*)○矢永誠人・遠藤和豊・中原弘  
道・生田 茂\*・三浦太一\*\*・竹田満洲雄\*\*\*
- 3 A 0 3 ( $C_nH_{2n+1}NH_3$ )<sub>2</sub>SnCl<sub>6</sub>のメスbauer一分光学的研究  
(都立大理)○片田元己・中居進治・佐野博敏

座長 安部 文 敏 (10:10~11:10)

- 3 A 0 4 イオン性硫酸塩ガラスの構造  
(九大理)西田哲明・○猿渡説子・高島良正
- 3 A 0 5 イオン伝導性を有するホウ酸塩ガラスの構造  
(九大理)西田哲明・○緒方道子・高島良正
- 3 A 0 6 半導性を有するバナジウム酸塩ガラスの構造  
(九大理)○西田哲明・高島良正

座長 安部 静 子 (11:20~12:00)

- 3 A 0 7 鉄の表面酸化物のメスbauerスペクトル  
(九大理)前田米蔵・○荒巻政昭・高島良正
- 3 A 0 8 シリカ表面に吸着したスピノクロスオーバー鉄Ⅲ錯体のスピノ転移挙動  
(九大理)前田米蔵・○友清正博・大塩寛紀・高島良正

<昼 休 み>

座長 竹 田 満洲雄 (13:20~14:20)

- 3A09 シリカゲル表面における鉄塩の状態のメスbauer一分光法による研究  
 (東大理)○影山 昭・酒井陽一・富永 健
- 3A10 シリカゲル上に吸着した鉄化合物の存在状態及び光化学反応のメスbauer一分光法による研究  
 (東理大理・東大理\*)○松下幸浩・狐塚美絵\*・富永 健\*・佐藤春雄
- 3A11 メスbauer異性体シフトの絶対定量化と分子軌道計算  
 (理研・都立大理\*・都立大教養\*\*)○三浦太一・遠藤和豊\*・中原弘道\*・  
 生田 茂\*\*

## B会場

### 〔環境放射能〕

座長 西沢 嘉寿成 (9:00~10:00)

- 3B01 低レベルトリチウム測定における液体シンチレーションカウンターの新しい検出効率補正法の検討  
 (新潟大理・新潟大工\*)橋本哲夫・○酒井裕二・野中雅史・小島康之\*
- 3B02 生物試料中のトリチウム濃度  
 (九大理)百島則幸・○井上満稔・高島良正
- 3B03 尿中のトリチウム濃度  
 (九大理)百島則幸・○永里良産・高島良正

座長 藤原 一郎 (10:10~11:10)

- 3B04 トリチウム水の土壌中での拡散  
 (九大理)○百島則幸・小川太樹・高島良正
- 3B05 大気中トリチウムの化学形別濃度測定(第3報)  
 (九大工・九大理\*)○岡井富雄・松浦寿光\*・高島良正\*
- 3B06 トリチウム濃度の経年変化を利用した地下水の滞留時間の推定  
 (放医研)○宮本霧子・植木千恵・井上義和・岩倉哲男

座長 古川 路明 (11:20~12:20)

- 3B07 放射性有機廃液焼却装置周辺環境における<sup>3</sup>H, <sup>14</sup>C濃度の測定  
 (九大理・九大RIセ\*)○加治俊夫・宇津宮賢治・杉原真司\*・百島則幸・大崎進\*  
 高島良正
- 3B08 海水中放射性核種の in situ 捕集法  
 (日本分析セ)樋口英雄・野中信博・○森本隆夫
- 3B09 <sup>60</sup>Coの海水中の酸化状態-II  
 (放医研)○平野茂樹・松葉満江・小柳 卓

### <昼休み>

座長 百島 則幸 (13:20~14:20)

- 3B10 同位体交換法による環境試料中の放射性および安定コバルトの同時定量  
 (筑波大化)○尾辺俊之・池田長生
- 3B11 降水中の<sup>22</sup>Naと<sup>7</sup>Beの濃度とその時間変化

- (名大理・名大水研\*・名大RIセ\*\*)○古川路明・小尻英博\*・小島貞男\*\*  
 3B12 低レベルTc-99の分析法の検討(第二報)  
 (動燃東海)○圓尾好宏・吉崎裕一・出沢孝久・岩井 誠

## C会場

### 〔加速器とその応用〕

座長 近藤 健次郎 (9:00~10:00)

- 3C01 炭素の不足当量沈殿分離  
 (NTT茨城研)○鹿野弘二・米沢洋樹・重松俊男・加藤正明  
 3C02 小型サイクロトロンによるRBS  
 (NTT茨城研)○米沢洋樹・鹿野弘二・重松俊男  
 3C03 重イオンを用いたW/GaAsの熱処理における相変化測定  
 (理研・東芝\*)矢野倉 実・佐藤和広・荒谷美智・野崎 正・斎藤和男\*

座長 今村 峯 雄 (10:10~11:10)

- 3C04 ガラス表面における水熱置換水素の前方反跳法による研究  
 (理研・東工大\*)○荒谷美智・矢野倉 実・邱 齐\*・佐藤和広・齋 炳坤\*・野崎 正  
 3C05 水素イオン打ち込みしたガーネット単結晶中での軽元素分布分析  
 (理研・東工大\*・日立中研\*\*)○荒谷美智・矢野倉 実・邱 齐\*・佐藤和広・井村 亮\*\*・野崎 正  
 3C06  $^{15}\text{N}$ をアクチバブルレーザーとして用いた半導体ケイ素中の窒素の拡散  
 (理研・日立日研\*)○伊東芳子・野崎 正・大久保嘉高・三浦太一・望月康弘\*

座長 荒谷 美 智 (11:20~12:20)

- 3C07  $^{15}\text{N}$ 共鳴核反応による軽水素分析法の定量性  
 (名大工)雨宮 進・○石川和幸・増田俊雄・釣田幸雄・加藤敏郎  
 3C08 高速イオンビーム分析法の放射性廃棄物処理技術研究への応用  
 (名大工)○雨宮 進・石川和幸・釣田幸雄・増田俊雄・加藤敏郎  
 3C09 KEK12GeVPSビームライン周辺空気中の放射性エアロゾル(6)  
 (高工研)○村松久和・近藤健次郎

### <昼 休 み>

座長 八木 益 男 (13:20~14:20)

- 3C10 加速器施設における radon-daughters の挙動(2)  
 (高工研)○近藤健次郎・村松久和  
 3C11 PIXE分析法による人体臓器中微量元素分布(第2報)  
 (放医研)○湯川雅枝・喜多尾憲助・安本 正  
 3C12 RI Implant Induced X-ray Emission法による生体内重元素の非侵襲測定  
 (金沢大医技短)天野良平



# LIST OF PAPERS

Presented at

THE 30TH SYMPOSIUM ON RADIOCHEMISTRY

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OCTOBER 22-24, 1986

MEMORIAL MUSEUM FOR WAR DAMAGE REHABILITATION  
SENDAI

Wednesday, October 22

PLENARY LECTURE 13:20 - 14:20

PL01 Radiogeochemistry: 1936 - 1986

Kuroda, P. K. (Department of Chemistry, University of Arkansas)

Lecture Session

[Nuclear Reaction]

(9:40 - 10:40)

1A01 Photonuclear Reactions on Au-197: Spallation and Fission

Fukasawa, T., Yoshida, M., Osada, K., Kobayashi, K., Kunugise, A., Hamajima, Y., Sakamoto, K., Shibata, S.\*, Imamura, M.\*, Fujiwara, I.\*\*, and Furukawa, M.\*\*\* (Faculty of Science, Kanazawa University; \*Institute for Nuclear Study, The University of Tokyo; \*\*Ottemon Gakuin University; \*\*\*Faculty of Science, Nagoya University)

1A02 Photonuclear Spallation Reactions in Cu

Shibata, S., Imamura, M., Miyachi, T., Mutoh, M., Sakamoto, K.\*, Hamajima, Y.\*, Soto, M.\*, Kubota, Y.\*, Yoshida, M.\*, and Fujiwara, I.\*\* (Institute for Nuclear Study, The University of Tokyo; \*Faculty of Science, Kanazawa University; \*\*Ottemon Gakuin University)

1A03 Photonuclear Spallation Systematics--On the Parameters of Rudstam Formula

Yoshida, M., Kubota, Y., Fukasawa, T., Osada, K., Kobayashi, K., Kunugise A., Hamajima, Y., Sakamoto, K., Shibata, S.\*, Imamura, M.\*, Fujiwara, I.\*\*, and Furukawa, M.\*\*\* (Faculty of Science, Kanazawa University; \*Institute for Nuclear Study, The University of Tokyo; \*\*Ottemon Gakuin University; \*\*\*Faculty of Science, Nagoya University)

(10:50 - 12:10)

1A04  $(\gamma, \pi^- xn)$  Reactions on Lu-175 and Au-197

Hamajima, Y., Yoshida, M., Fukasawa, T., Osada, K., Kobayashi, K., Kunugise, A., Sakamoto, K., Shibata, S.\*, Imamura, M.\*, Fujiwara, I.\*\* and Furukawa, M.\*\*\* (Faculty of Science, Kanazawa University; \*Institute for Nuclear Study, The University of Tokyo; \*\*Ottemon Gakuin University; \*\*\*Faculty of Science, Nagoya University)

1A05 Radiochemical Study on the Two-Mode Fission

Wakamatsu, S., Saito, T., Yokoyama, A., Shinohara, A., Shoji, M., Takahashi, N., Yoshizaki, N., and Baba, H. (Faculty of Science, Osaka University)

1A06 Compound Formation Cross Section of Heavy Nuclei and Its Angular Momentum Dependent Fission Barrier

Yokoyama, A., Baba, H., and Baba, S.\* (Faculty of Science, Osaka University; \*Japan Atomic Energy Research Institute)

1A07 Heavy Ion Induced Fission of  $^{209}\text{Bi}$ ,  $^{208}\text{Pb}$ , and  $^{207}\text{Pb}$

Shinohara, A., Saito, T., Takahashi, N., Yokoyama, A., Shoji, M., Wakamatsu, S., Ming-Jinn Duh, Yoshizaki, N., Katori, K., Baba, H., Sueki, K.<sup>1</sup>, Hatsukawa, Y.<sup>1</sup>, Hamajima, Y.<sup>2</sup>, Fujiwara, I.<sup>3</sup>, and Furukawa, M.<sup>4</sup> (Faculty of Science, Osaka University; <sup>1</sup>Faculty of Science, Tokyo Metropolitan University; <sup>2</sup>Faculty of Science, Kanazawa University; <sup>3</sup>Ottemon



Gakuin University; <sup>4</sup>Faculty of Science, Nagoya University)

(Lunch Time 12:10 - 13:20)

(Plenary Lecture PL01 13:20 - 14:20)

[Nuclear Reaction] (Continued)

(14:30 - 15:50)

1A08  $\alpha$  Induced Nuclear Fission on Bi

Hamajima, Y., Ohtsuki, T.\* , Hatsukawa, Y.\* , Sueki, K.\* , Nakahara, H.\* ,  
and Kohno, I.\*\* (Faculty of Science, Kanazawa University; \*Faculty of  
Science, Tokyo Metropolitan University; \*\*The Institute for Physical and  
Chemical Research)

1A09 Mass Distribution of Fission Products in the System of <sup>20</sup>Ne on <sup>209</sup>Bi

Horikoshi, Y., Fujimoto, H., Kudo, H., Hashimoto, T., Sotobayashi, T.,  
and Hatsukawa, Y.\* (Faculty of Science, Niigata University; \*Faculty of  
Science, Tokyo Metropolitan University)

1A10 Mass Splitting of Heavy Ion Reactions in Light Mass System

Sueki, K., Nakahara, H., Kohno, I.\* and Matsuse, T.\*\* (Faculty of Science,  
Tokyo Metropolitan University; \*The Institute of Physical and Chemical  
Research; \*\*Faculty of Textile Science and Technology, Shinshu  
University)

1A11 Configuration of Mass Yield Curves in Low Energy Fission of Actinide  
Elements

Ohtsuki, T., Sueki, K., Nakahara, H., Kohno, I.\* , Shinohara, N.\*\* ,  
Magara, M.\*\* , and Nagame, Y.\*\* (Faculty of Science, Tokyo Metropolitan  
University; \*The Institute of Physical and Chemical Research; \*\*Japan  
Atomic Energy Research Institute)

(16:00 - 17:00)

1A12 Cross Section of <sup>237</sup>Np Proton Induced Fission

Ohtsuki, T., Sueki, K., Hatsukawa, Y., Nakahara, H., and Kohno, I.\*  
(Faculty of Science, Tokyo Metropolitan University; \*The Institute of  
Physical and Chemical Research)

1A13 Development of IGISOL

Morita, K., Inamura, K., Nomura, T.<sup>1</sup>, Tanaka, J.<sup>1</sup>, Miyatake, H.<sup>1</sup>,  
Fujioka, M.<sup>2</sup>, Shinozuka, T.<sup>2</sup>, Hama, H.<sup>2</sup>, Yoshii, M.<sup>2</sup>, Taguchi, K.<sup>2</sup>  
Sueki, K.<sup>3</sup>, Hatsukawa, Y.<sup>3</sup>, Furuno, K.<sup>4</sup>, and Kudo, H.<sup>5</sup> (The Institute  
Physical and Chemical Research; <sup>1</sup>Institute for Nuclear Study, The Univer-  
sity of Tokyo; <sup>2</sup>Cyclotron and Radioisotope Center, Tohoku University;  
<sup>3</sup>Faculty of Science, Tokyo Metropolitan University; <sup>4</sup>Institute of Physics  
and Tandem Accelerator Center, The University of Tsukuba; <sup>5</sup>Faculty of  
Science, Niigata University)

1A14 Transfer Reaction in the Systems of <sup>16</sup>O and <sup>20</sup>Ne on <sup>209</sup>Bi

Kudo, H., Horikoshi, Y., Hashimoto, T., Sotobayashi, T., Nomura, T.\* ,  
Sueki, K.\*\* , Hatsukawa, Y.\*\* , and Magara, M.\*\*\* (Faculty of Science,  
Niigata University; \*Institute for Nuclear Study, The University of  
Tokyo; \*\*Faculty of Science, Tokyo Metropolitan University; \*\*\*Japan  
Atomic Energy Research Institute)

(17:10 - 18:10)

- 1A15 Nucleon Transfer Processes in the  $^3\text{He} + ^{197}\text{Au}$  Reaction System  
Shoji, M., Saito, T., Shinohara, A., Yokoyama, A., Wakamatsu, S., and  
Baba, H. (Faculty of Science, Osaka University)
- 1A16 Nucleon Transfer Reactions in the System  $^{37}\text{Cl} + ^{103}\text{Rh}$   
Baba, S., Hata, K., Sekine, T., Matsuoka, H., Nagame, Y., and Yokoyama,  
A.\* (Japan Atomic Energy Research Institute; \*Faculty of Science, Osaka  
University)
- 1A17 Formation and Deexcitation of the  $^{105}\text{Ag}$  Compound Nucleus  
Nagame, Y., Magara, M., Matsuoka, H., Sekine, T., Hata, K., Baba, S.,  
and Yokoyama, A.\* (Japan Atomic Energy Research Institute; \*Faculty of  
Science, Osaka University)

(Nuclear Chemistry Group Meeting 18:20 - 20:40)

[Activation Analysis]

(9:40 - 11:00)

- 1B01 Red and Blue Emission of Thermoluminescence from Quartz Grains  
Hashimoto, T., Yokosaka, K., and Habuki, H. (Faculty of Science, Niigata  
University)
- 1B02 Neutron Activation Analysis of Trace Amounts of Iodine in Rocks  
Ebihara, M\*, Akaiwa, H., and Saito, N. (Faculty of Engineering, Gunma  
University; \*Faculty of general Education, Gunma University)
- 1B03 Analytical Study of Granitic Rocks (II). Granitic Rocks in Kinki District  
Mitsuji, T., Sugi, N., Kurose, Y., Yoshida, K., and Aruji, C. (Nara  
University of Education)
- 1B04 Determination of Uranium and Thorium in Reactor Materials and LSI  
Constituent Materials by Radiochemical Neutron Activation Analysis  
Yonezawa C., Hoshi, M., Tachikawa, E., Yamamoto, K., and Kamioki, H.\*  
(Japan Atomic Energy Research Institute; \*Irradiation Development  
Association)
- (11:10 - 12:10)
- 1B05 Distribution of Gold in Kushikino District Determined by Neutron Acti-  
vation Analysis  
Sasaki, Y., Hirao, Y., Kimura, K., and Morishita, Y.\* (College of Science  
and Engineering, Aoyama Gakuin University; \*Geological Survey of Japan)
- 1B06 Determination of Carbon in Aluminium by Charged Particle Activation  
Analysis  
Sato, K., Nozaki, T., and Izumi, I.\* (The Institute of Physical and  
Chemical Research; \*Nikkeigiken)
- 1B07 Determination of Carbon in Magnesium by Charged Particle Activation  
Method  
Yoshikawa, H., Nakahara, H., Imamura, M.<sup>1</sup>, Sato, K.<sup>2</sup>, Miura, T.<sup>3</sup>, Nozaki,  
T.<sup>3</sup>, and Kimura, M.<sup>4</sup> (Faculty of Science, Tokyo Metropolitan University;  
<sup>1</sup>Institute for Nuclear Study, The University of Tokyo; <sup>2</sup>Faculty of  
Science, Toho University; <sup>3</sup>The Institute of Physical and Chemical  
Research; <sup>4</sup>Furukawa Magnesium Chemical Co.)

(Lunch Time 12:10 - 13:20)

(Plenary Lecture PL01 13:20 - 14:20)

[Activation Analysis] (Continued)

(14:30 - 15:50)

1B08 Determination of Low Concentration of Carbon in Stainless Steel and Copper Metals by Photon Activation Analysis  
Yoshioka, A., Nomura, K., Takeya, M., Shimura, K., Yagi, M.\*, and Masumoto, K.\* (Central Research Institute, Mitsubishi Metal Co.; \*Laboratory of Nuclear Science, Faculty of Science, Tohoku University)

1B09 Determination of P, Cl, K, and Ca in Several Human Serums by Charged-Particle Activation Analysis Applying the Internal Standard Method  
Yagi, M. and Masumoto, K. (Laboratory of Nuclear Science, Faculty of Science, Tohoku University)

1B10 Multi-element Photon Activation Analysis of Soil Samples Using the Internal Standard Method  
Masumoto, K. and Yagi, M. (Laboratory of Nuclear Science, Faculty of Science, Tohoku University)

1B11 Determination of Elemental Concentration in Japanese Standard Soils by Neutron Activation Analysis  
Tsukada, M.\*, Ohtsuki, T., Yanaga, M., Endo, K., and Nakahara, H. Faculty of Science, Tokyo Metropolitan University; \*Faculty of Agriculture, Meiji University)

(16:00 - 17:00)

1B12 Instrumental Neutron Activation Analysis of Toner  
Kishi, T., Tsunoda, N., Nadano, D., and Ohki, H. (National Research Institute of Police Science)

1B13 Detection of Korean Pottery in Japanese Ancient Tomb Sites (III). Shoji and Hoshizuka Tomb Sites in Nara Prefecture  
Mitsuji, T., Nakano, Y.\*, Nishikawa, Y., Ito, H., and Yamao, M. (Nara University of Education; \*Research Reactor Institute, Kyoto University)

1B14 Distribution of Sueki Ware Produced in Osaka Suemura in 5-6 Century (IV). Ohanayama Tomb Group Site in Yamagata Prefecture  
Mitsuji, T., Okai, T., Sugi, N., and Ohtsu, Y. (Nara University of Education)

(17:10 - 18:30)

1B15 Simultaneous Determination of Trace Elements in Human Serum and Blood Cells by Instrumental Neutron Activation Analysis (An Approach to Disease Analysis)  
Akiha, F., Takano, T.\*, Ebina, Y.\*\*, and Kon, M.\*\* (Faculty of Education, Hirosaki University; \*Research Center for Nuclear Science and Technology, The University of Tokyo; \*\*School of Medicine, Hirosaki University)

1B16 Determination of Mercury, Selenium, Arsenic, Antimony, and Chromium in Biological Materials by Radiochemical Neutron Activation Analysis  
Muramatsu, Y. (National Institute of Radiological Sciences)

1B17 Determination of Aluminium in Pepperbush Standard Reference Material by Neutron Activation Analysis

Mizumoto, Y., Kusakabe, T., Sasajima, K.\* , Tamai, T.\* , and Iwata, S.\*  
(Faculty of Science and Technology, Kinki University; \*Research Reactor  
Institute, Kyoto University)

1B18 Behavior of Trace Elements in Molluscs Shell Formation  
Yoshioka, S. and Terai, M.\* (Aichi University of Education; \*Tokyo Metro-  
politan Institute of Technology)

(Activation Analysis Group Meeting 18:40 - 20:40)

[Hot-Atom Chemistry]

(9:40 - 10:40)

1C01 Energetic Tritium Reactions with Trifluoroethylene (1)  
1,2-Fluorine Atom Migration in Trifluoroethyl Radical  
Kotaka, M., Kohida, T., and Sato, S. (Research Laboratory for Nuclear  
Reactors, Tokyo Institute of Technology)

1C02 Energetic Tritium Reactions with Trifluoroethylene (2)  
Analysis of C<sub>4</sub> Products  
Kohida, T., Kotaka, M., and Sato, S. (Research Laboratory for Nuclear  
Reactors, Tokyo Institute of Technology)

1C03 Chemical Effects of  $\beta$ -decay in Tritium Labelled Cytosine in Degassed  
Aqueous Solution  
Asano, T., Kiritani, R., and Fujita, S. (Radiation Center of Osaka  
Prefecture)

(10:50 - 12:10)

1C04 Mechanisms of Chemical Reaction Induced by Recoil Implantation: Recoil  
Replacement and Competition Reactions  
Yoshihara, K., Sekine, T., and Sano, M. (Faculty of Science, Tohoku  
University)

1C05 Reactions Between Malonic Acid-d<sub>4</sub> and <sup>13</sup>N Produced by Recoil Deuterons in  
a Pile  
Sensui, Y., Tomura, K.\* , and Masutani, T.\* . (Faculty of General Education,  
Rikkyo University; \*Institute for Atomic Energy, Rikkyo University)

1C06 Reactivity of <sup>35</sup>S and <sup>37</sup>S Atoms Simultaneously Generated in Liquid Carbon  
Disulfide by Neutron Irradiation  
Niisawa, K., Taki, K., and Matsuura, T.\* (Faculty of Industrial Hygiene,  
Kitasato University; \*Institute for Atomic Energy, Rikkyo University)

1C07 Recoil Tritiation of Compounds of Interest in Biological Research by the  
<sup>3</sup>He(n,p)<sup>3</sup>H Reaction  
Nogawa, N., Ohashi, K., Morikawa, N., Kusama, K.\* , Watabe, S.\*\* , Satoh,  
N.\*\* , Hashimoto, K.\*\* , Matsuoka, H.\*\*\* , Moki, T.\*\*\* , and Moriya, T.\*\*\*  
(Radioisotope Center, The University of Tokyo; \*\*Faculty of Science,  
Shizuoka University; \*\*\*Faculty of Agriculture, The University of Tokyo;  
\*\*\*Japan Atomic Energy Research Institute)

(Lunch Time 12:10 - 13:20)

(Plenary Lecture PL01 13:20 - 14:20)

[Hot-Atom Chemistry] (Continued)

(14:30 - 15:30)

- 1C08 Valence States and Chemical Behavior of Tritium in Li<sub>2</sub>O Crystals  
Kudo, H. and Okuno, K. (Japan Atomic Energy Research Institute)
- 1C09 TDPAC of (<sup>111</sup>In → )<sup>111</sup>Cd in Silver Phosphate  
Asai, K., Ambe, S., Okada, T., and Ambe, F. (The Institute of Physical and Chemical Research)
- 1C10 Chemical Effects of the EC Decay of <sup>111</sup>In in α-Fe<sub>2</sub>O<sub>3</sub> by TDPAC  
Asai, K., Ambe, F., Ambe, S., Okada, T., and Sekizawa, H. (The Institute of Physical and Chemical Research)

(15:40 - 17:00)

- 1C11 Application of Perturbed Angular Correlation Phenomena to Biological Specimen by Sum Peak Method  
Kudo, T., Tsuchihashi, N., Yui, T., Mitsugashira, T.\* , Kaji, H.\*\* , and Yoshihara, K.\*\* (Fukushima Medical College; \*The Research Institute for Iron, Steel and Other Metals, Tohoku University; \*\*Faculty of Science, Tohoku University)
- 1C12 Gamma-Ray Spectrometry Accompanying Appreciable Amount of the Sum Effects  
Sakuraba, Y., Yokoyama, A., Saito, T., Baba, H., and Baba, S.\* (Faculty of Science, Osaka University; \*Japan Atomic Energy Research Institute)
- 1C13 The Recoil Tritium Reaction with Tetraphenylporphyrin III.  
The Recoil Tritium Reaction Using Thin Target  
Izawa, G., Sekine, T., and Yoshihara, K. (Faculty of Science, Tohoku University)

- 1C14 Recoil Chemistry in Water-Soluble Metalloporphyrin Associates in the Solid Phase  
Ogawa, K., Shoji, H., and Ikeda, N. (Department of Chemistry, The University of Tsukuba)

(17:10 - 18:10)

- 1C15 Hot Atom Chemistry of Cobalt and Zinc Phthalocyanine Mixed Crystals -----  
General Features -----  
Oki, Y., Shoji, H., and Ikeda, N. (Department of Chemistry, The University of Tsukuba)
- 1C16 Hot Atom Chemistry of <sup>55</sup>Cr in Cr(acac)<sub>3</sub> and Isotope Effect of Retention Value  
Matsuura, T., Kurihara, H., Nagahara, T., and Sasaki, K.\* , (Institute for Atomic Energy, Rikkyo University; \*Faculty of Science, Nagoya University)
- 1C17 X,γ-Coincidence Mössbauer Spectrum of <sup>57</sup>Co-Labelled Co(IO<sub>3</sub>)<sub>2</sub>  
Watanabe, Y., Endo, K. Sano, H., and Muramatsu, H.\* (Faculty of Science, Tokyo Metropolitan University; \*The National Laboratory for High Energy Physics)

(Hot-Atom Chemistry Group Meeting 18:20 - 20:40)

Thursday, October 23

PLENARY LECTURES 15:00 - 16:00

PL02  $^{57}\text{Fe}$  Mössbauer Spectroscopic Studies of Electronically Labile Transition Metal Compounds  
Hendrickson, D. N. (School of Chemical Sciences, University of Illinois)

Lecture Session

[Nuclear Decay]

(9:00 - 10:00)

2A01 The Decay of  $^{48}\text{Mn}$   
Sekine, T.\* , Cerny, J., Kirchner, R., Klepper, O., Koslowsky, V. T., Plochocki, A., Roeckl, E., Schardt, D., Scherrill, B., and Brown, B. A.\*\* (GSI Darmstadt, FRG; \*Japan Atomic Energy Research Institute; \*\*Michigan State University)

2A02 Decay of  $^{245}\text{Cf}$   
Magara, M., Shinohara, N., Usuda, S., Ichikawa, S., Suzuki, T., Okashita, H., Yoshikawa, H.<sup>1</sup>, Iwata, Y.<sup>2</sup>, Horiguchi, T.<sup>2</sup>, Shibata, S.<sup>3</sup>, and Fujiwara, I.<sup>4</sup> (Japan Atomic Energy Research Institute; <sup>1</sup>Faculty of Science, Tokyo Metropolitan University; <sup>2</sup>Faculty of Science, Hiroshima University; <sup>3</sup>Institute for Nuclear Study, The University of Tokyo; <sup>4</sup>Faculty of Economics, Ottemon Gakuin University)

2A03 Study on the Decay Properties Odd-Even Einsteinium Isotopes  
Hatsukawa, Y., Ohtsuki, T., Tsukada, K., Sueki, K., Nakahara, H., and Kohno, I.\* (Faculty of Science, Tokyo Metropolitan University; \*The Institute of Physical and Chemical Research)

[Mössbauer Effect]

(10:10 - 11:10)

2A04 Chemical Effects of the  $^6\text{Li}(n,\alpha)\text{T}$  Reaction in Iron and Tin Compounds  
Sato, T., Katada, M., and Sano, H. (Faculty of Science, Tokyo Metropolitan University)

2A05 Aftereffects of  $^{57}\text{Co}$  EC Decay in Sulfates  
Kobayashi, T. and Makita, T. (Shiga University of Medical Science)

2A06 Scattered Electron Mössbauer Measurements by Using Micro Channel Plate and Its Application  
Sato, H., Ohta, T., Obayashi, C.\*, and Tominage, T.\* (Faculty of Science, Science University of Tokyo; \*Faculty of Science, The University of Tokyo)

(11:20 - 12:20)

2A07 Mössbauer Spectroscopic Studies of Ruthenium Compounds (I)  
Kobayashi, Y., Katada, M., Sano, H., Okada, T.\*, Asai, K.\*, Ambe, S.\*, and Ambe, F.\* (Faculty of Science, Tokyo Metropolitan University; \*The Institute of Physical and Chemical Research)

2A08 Mössbauer Studies on Matrix-Isolated Species (VIII)

Reaction of  $\text{Fe}(\text{CO})_x$  in Nitrogen Matrices Deposited by Pulses  
Yamada, Y. and Tominaga, T. (Faculty of Science, The University of Tokyo)

2A09 Identification and Catalysis of Finely Dispersed Iron Oxides on Zeolite  
Maeda, Y., Kawasaki, S., and Takashima, Y. (Faculty of Science, Kyushu University)

(Lunch Time 12:20-13:00)

(Poster Session 13:00 - 14:50)

(Plenary Lecture PL02 15:00 - 16:00)

[Mössbauer Effect] (Continued)

(16:10 - 17:10)

2A10  $^{57}\text{Fe}$  Mössbauer Spectra of Geological and Archeological Samples from the Xinjiang Uighur Autonomous Region of China  
Ambe, F., Ambe, S., Huang Zi-wei\*, and Nozaki, T. (The Institute of Physical and Chemical Research; \*The Xinjian Institute of Biology, Pedology, and Psammology)

2A11 Mössbauer Spectroscopic Characterization of Airborne Particles  
Matsuo, M. and Kobayashi, T. (Tokyo Institute of Technology)

2A12  $^{57}\text{Fe}$  Conversion Electron Mössbauer Spectrometric Study on Structure and Thermal Behavior of Boron and Carbon Ion Implanted Iron  
Fujinami, M. and Ujihira, Y. (Faculty of Engineering, The University of Tokyo)

(17:20 - 18:20)

2A13  $^{119}\text{Sn}$  Mössbauer Effect Doped in  $\alpha\text{-Fe}_2\text{O}_3$   
Yamada, K., Asahara, Y., Katsumura, M., and Ichiba, S. (Faculty of Science, Hiroshima University)

2A14 Mössbauer Study of the System  $\text{Fe}_3\text{O}_4\text{-Sn}$   
Ichiba, S., Katsumura, M., and Sakai, H.\* (Faculty of Science, Hiroshima University; Research Reactor Institute, Kyoto University)

2A15 Emission Mössbauer Spectra of  $^{119}\text{Sb}$  Electroplated on Au Surface  
Ambe, S., Ambe, F., Okada, T., Tanaka, I.\*, Nasu, S.\*, and Fujita, E.\* (The Institute of Physical and Chemical Research; \*Department of Material Physics, Osaka University)

[Activation Analysis] (Continued)

(9:00 - 10:00)

2B01 Dissolved Forms of Trace Elements in River Water  
Tanizaki, Y., Yamazaki, M., and Shimokawa, T. (Tokyo Metropolitan Isotope Research Center)

2B02 Neutron Activation Analysis of Inland Water Samples --- Vertical Concentration Distribution of Chemical Species in Reservoir ---  
Tsuji, H., Tamari, Y., Kusaka, Y., and Mizohata, A.\* (Faculty of Science, Konan University; \*Radiation Center of Osaka Prefecture)

2B03 Distribution and Behavior of Radionuclides and Trace Metals in the Sediments  
Sugihara, S., Osaki, S., Fukumura, H.\*., Momoshima, N.\* and Takashima, Y.\* (Radioisotope Center, Kyushu University; \*Faculty of Science, Kyushu University)

(10:10 - 11:10)

2B04 Development of Gamma-Ray Spectra Acquisition Program for Neutron Activation Analysis  
Suzuki, S., Matsumoto, K., and Hirai, S. (Atomic Energy Research Laboratory, Musashi Institute of Technology)

2B05 Neutron Flux Density of Musashi Research Reactor after Change of Nuclear Fuel Rods

Hirai, S., Okada, Y., Suzuki, S., Matsumoto, K., Horiuchi, N., Aizawa, O., Nozaki, T., Matsumoto, T., Kobayashi, K., and Aoki, K. (Atomic Energy Research Laboratory, Musashi Institute of Technology)

2B06 Tritium Produced by Li Isotopes ( ${}^6\text{Li}$ ,  ${}^7\text{Li}$ ) + n Reactions at Kinki University Reactor and Its Application

Itoh, M. and Sakanoue, M. (Low Level Radioactivity Laboratory, Faculty of Science, Kanazawa University)

(11:20 - 12:20)

2B07 Precision and Accuracy of Substoichiometry (1)  
Neutron Activation

Shigematsu, T., Katoh, M., Yonezawa, H., and Shikano, K. (NTT Electrical Communications Laboratories)

2B08 Precision and Accuracy of Substoichiometry (2)

RI-Addition Substoichiometry

Katoh, M., Shigematsu, T., Shikano, K., and Yonezawa, H. (NTT Electrical Communications Laboratories)

2B09 Substoichiometric Determination of Neodymium in Lanthanum Compounds

Katoh, M., Shigematsu, T., Shikano, K., and Yonezawa, H. (NTT Electrical Communications Laboratories)

(Lunch Time 12:20 - 13:00)

(Poster Session 13:00 - 14:50)

(Plenary Lecture PL02 15:00 - 16:00)

[Meson Chemistry]

(16:10 - 18:40)

2B10 Intensity Ratios of Pionic X-Ray in Some Chemical Compounds of Chromium  
Sekine, T., Hashimoto, K., Kaji, H., Yoshihara, K., Imanishi, N.\* and Yoshimura, Y.\*\* (Faculty of Science, Tohoku University; \*Institute of Atomic Energy, Kyoto University; \*\*National Laboratory for High Energy Physics)

2B11 Chemical Effects on Atomic Capture of Negative Muons in Compounds Containing Oxygen and/or Chlorine

Kubo, M. K., Sakai, Y., Tominaga, T., Ishida, K.\*, Nishiyama, K., and Nagamine, K. (Faculty of Science, The University of Tokyo; \*The Institute of Physical and Chemical Research)



2B12 Detection of Mesonic Hydrogen  
Imanishi, N., Miyamoto, S., Takeuchi, Y., Toyoda, K., Shinohara, A.\*,  
Kaji, H.\*\* , and Yoshimura, Y.\*\*\* (Institute of Atomic Energy, Kyoto  
University; \*Faculty of Science, Osaka University; \*\*Faculty of Science,  
Tohoku University; \*\*\*National Laboratory for High Energy Physics)

2B13 Mesonic Atoms and Molecular Structure -- Hydrogen Containing Molecule I  
Imanishi, N., Miyamoto, S., Takeuchi, Y., Toyoda, K., Shinohara, A.\*,  
Kaji, H.\*\* , and Yoshimura, Y.\*\*\* (Institute of Atomic Energy, Kyoto  
University; \*Faculty of Science, Osaka University; \*\*Faculty of Science,  
Tohoku University; \*\*\*National Laboratory for High Energy Physics)

(17:40 - 18:40)

2B14  $\mu$ SR Study of Chemical and Magnetic Behaviors of Positive Muons in  
Crystalline Tris(acetylacetonato)metal(III) Complexes  
Sakai, Y., Kubo, M. K., Tominaga, T., Nishiyama, K., and Nagamine, K.  
(Faculty of Science, The University of Tokyo)

2B15 Application of a Positive Muon Spin Resonance Method for Muon-Chemistry  
Ito, Y., Azuma, T.\*, Tabata, Y.\*, and Nishiyama, K.\*\* (Research Center  
for Nuclear Science and Technology, The University of Tokyo; \*Nuclear  
Engineering Laboratory, The University of Tokyo; \*\*Meson Science  
Laboratory, The University of Tokyo)

2B16 Void in Zeolites Measured by Positron Annihilation Technique  
Itoh, Y. and Hasegawa, M.\* (Research Center for Nuclear Science and  
Technology, The University of Tokyo; \*The Research Institute for Iron,  
Steel and Other Metals, Tohoku University)

[Radioanalytical Chemistry · Tracer Technique]

(9:00 - 10:00)

2C01 Adsorption Behavior of Radionuclides Coordinated with Inorganic Anion on  
Non-Ionic Polymeric Matrices(1). Application to Radioanalytical chemistry  
Shibata, S., Watari, K., Imai, K, and Izawa, M.\* (National Institute of  
Radiological Sciences; \*The Japan Atomic Power Company)

2C02 Preparation and Application of Yield Tracer of Gold  
Saito, Y., Ueno, T., Yoshihara, T., Hirao, Y., and Kimura, K (College of  
Science and Engineering, Aoyama Gakuin University)

2C03 A New Method of Substoichiometry with the Organic Derivative Synthesis  
and the Ion-Pair Extraction  
--- Determination of Sulfur in Biological Materials ---  
Iwata, Y., Imura, H., and Suzuki, N. (Faculty of Science, Tohoku  
University)

(10:10 - 11:10)

2C04 Consideration on the Reactivity of Formyl in Benzaldehyde  
Okada, M., Imaizumi, H., and Uchida, K. (Faculty of Engineering, Niigata  
University)

2C05 Radiation Induced Hydrogen Exchange Reaction in Uracil  
Hasegawa, K. and Takagi, S. (Faculty of Science, Shizuoka University)

2C06 Hydrogen Isotope Effect of t-Butylammonium ion  
Nishizawa, K. and Aoyagi, M. (Faculty of Engineering, Osaka University)

[Chemistry of Extinct Element]

(11:20 - 12:20)

2C07 Production of  $^{143,144}\text{Pm}$  and Their Application to the Solution Chemistry  
Sato, I., Mitsugashira, T., Nomura, A., Suzuki, S., Tomiyama, H.<sup>\*</sup>, and  
Morii, N.<sup>\*\*</sup> (The Research Institute for Iron, Steel and Other Metals,  
Tohoku University; <sup>\*</sup>Mitsubishi Heavy Industries, Ltd.; <sup>\*\*</sup>Kandenko Co. Ltd.)

2C08 Syntheses of  $^{99}\text{Tc}$ - $\beta$ -Diketonates from the  $^{99}\text{Tc}$ -Thiourea Complex  
Hashimoto, K., Omori, T., and Yoshihara, K. (Faculty of Science, Tohoku  
University)

2C09 Basic Hydrolysis Mechanism of Chlorobis( $\beta$ -diketonato)oxotechnetium(V)  
Complexes  
Yamada, Y., Omori, T., and Yoshihara, K. (Faculty of Science, Tohoku  
University)

(Lunch Time 12:20 - 13:00)

(Poster Session 13:00 - 14:50)

(Plenary Lecture PL02 15:00 - 16:00)

[Radioanalytical Chemistry · Tracer Technique] (Continued)

(16:10 - 17:10)

2C10 Sulfur Exchange Reaction of Carbon Disulfide with Elemental Sulfur  
Ogawa, K. and Taki, K. (School of Hygienic Science, Kitasato University)

2C11 Determination of the Trace Amount of Thallium by Redox Sub- and Super-  
Equivalence Method of Isotope Dilution Analysis  
Yoshioka, H., Hasegawa, K., and Morishita, T. (Faculty of Science,  
Shizuoka University)

2C12 Determination of DNA by Isotope Dilution Analysis  
Yoshioka, H., Hisada, T., Yoshinaga, K., and Hasegawa, K. (Faculty of  
Science, Shizuoka University)

(17:20 - 18:20)

2C13 Ultra Sensitive Measurements of Radioactive Nuclides by Tandem Accele-  
rator (5) -- Applications to Archaeological Samples --  
Yoshida, K., Yamashita, H., Kobayashi, K.<sup>1</sup>, Nagai, H.<sup>2</sup>, Okizaki, S.<sup>2</sup>,  
Kobayashi, T.<sup>2</sup>, Yagi, S.<sup>2</sup>, Honda, M.<sup>2</sup>, Imamura, M.<sup>3</sup>, and Yoshikawa, H.<sup>4</sup>  
(Faculty of Science, The University of Tokyo; <sup>1</sup>Research Center for  
Nuclear Science and Technology, The University of Tokyo; <sup>2</sup>College of  
Humanities and Sciences, Nihon University; <sup>3</sup>Institute for Nuclear Study,  
The University of Tokyo; <sup>4</sup>Faculty of Science, Tokyo Metropolitan  
University)

2C14 Ultra Sensitive Measurements of Radioactive Nuclides by Tandem Acce-  
rator (6) -- Measurement of  $^{26}\text{Al}$  --  
Nagai, H., Yagi, S., Kobayashi, T., Okizaki, S., Honda, M., Imamura, M.<sup>1</sup>,

Shibata, S.<sup>1</sup>, Yoshida, K.<sup>2</sup>, Yamashita, H.<sup>2</sup>, Kobayashi, K.<sup>3</sup>, and Yoshikawa, H.<sup>4</sup> (College of Humanities and Sciences, Nihon University; <sup>1</sup>Institute for Nuclear Study, The University of Tokyo; <sup>2</sup>Faculty of Science, The University of Tokyo; <sup>3</sup>Research Center of Nuclear Science and Technology, The University of Tokyo; <sup>4</sup>Faculty of Science, Tokyo Metropolitan University)

2C15 Trace Elements in Iron Meteorites

Honda, M., Nagai, H., Shimamura, T.\* , Akizawa, S., Kamogawa, T., and Kobayashi, Y. (College of Humanities and Sciences, Nihon University; \*Marubun Co. Ltd)

Poster Session 13:00 - 14:50

[Chemistry of Alpha-Emitter]

Introductory Lecture 13:20 - 13:35

Inoue, Y. (Faculty of Engineering, Tohoku University)

- P01 Chemistry of Uranium in HF-SbF<sub>5</sub> Solvent (1)  
Assembly of Apparatus and Preparation of Uranium Fluoride solution  
Sugiyama, T., Hara, M., and Suzuki, S. (The Research Institute for Iron, Steel and Other Metals, Tohoku University)
- P02 Solvent Extraction of Neptunium(V) by Quaternary Alkylammonium and Pyrazolone-Derivatives  
Inoue, Y., Tochiyama, O., and Kuroki, Y. (Faculty of Engineering, Tohoku University)
- P03 Anion Exchange Separation of Neodymium and the Transplutonium Elements in Spent Nuclear Fuels with Nitric Acid-Alcohol Mixed Solvents for Burnup Measurement  
Usuda, S. and Magara, M. (Japan Atomic Energy Research Institute)
- P04 Separation of Actinoids by Extraction Chromatography  
Kimura, T. and Akatsu, J. (Japan Atomic Energy Research Institute)
- P05 Separation of Plutonium Oxidation States by Adsorption  
Kobashi, A. and Choppin, G. R.\* (Faculty of Science, The University of Tokyo; \*Department of Chemistry, Florida State University)
- P06 Stability of Plutonium Oxidation States in Seawater  
Kobashi, A. and Choppin, G. R.\* (Faculty of Science, The University of Tokyo; \*Department of Chemistry, Florida State University)
- P07 Sequential Analysis of Neptunium, Plutonium and Americium in the Environmental Soil Sample  
Chatani, K., Yamamoto, M., Komura, K., and Sakanoue, M. (Low Level Radioactivity Laboratory, Faculty of Science, Kanazawa University)
- P08 Radiochemical Study on the Uranium Series Nuclides in Phosphorites (5)  
--- Distribution of Tetravalent and Hexavalent Uranium ---  
Takada, M., Saito, N., and Sato, J.\* (Faculty of Science, Toho University; \*Faculty of Engineering, Meiji University)

- P09 Distributions of  $\alpha$ -Emitters between Rock/Mineral and Synthetic Ground Water  
Nakanishi, T., Hasuno, M., Okuno, T.\*, and Yabe, I.\*\* (Faculty of Science, Kanazawa University; \*Power Reactor and Nuclear Fuel Development Corporation; \*\*Nuclear Safety Research Association)
- P10 Removal Behavior of Natural Uranium Isotopes during Water Working Process  
Hashimoto, T., Watanabe, J., Sotobayashi, T., Yamagaki, K.\*, and Homma, S.\* (Faculty of Science, Niigata University; \*Niigata City Water Works Bureau)
- P11 Determination of Thorium in Human Tissues  
Igarashi, Y., Seki, R., and Ikeda, N. (Department of Chemistry, The University of Tsukuba)
- P12 Determination of Trace Uranium and Thorium in Semiconductor Materials by Neutron Activation Analysis  
Hirai, S., Suzuki, S., Okada, Y., Matsumoto, K., and Hayakawa, Y. (Atomic Energy Research Laboratory, Musashi Institute of Technology)
- P13 Analytical Method for Actinide Isotopes Utilizing Internal Conversion Electron Spectrometry  
Suzuki, S., Shiokawa, Y., and Suzuki, K. (The Research Institute for Iron, Steel and Other Metals, Tohoku University)
- P14 Development of an Automatic Measurement System for Various Radiations  
Masumoto, K. and Yagi, M. (Laboratory of Nuclear Science, Faculty of Science, Tohoku University)
- P15 Recoil Implantation Reactions of  $^{51}\text{Cr}$  Ejected from Thin Chromium Foil by  $^{52}\text{Cr}(\gamma, n)^{51}\text{Cr}$  Reaction  
Miyakawa, A., Sekine, T., and Yoshihara, K. (Faculty of Science, Tohoku University)
- P16 Distribution Pattern of Elements in Tissues of Animal Classified by Phylogenetic Systematics  
Terai, M., Yoshioka, S.\*, and Abuku, S.\*\* (Tokyo Metropolitan Institute of Technology; \*Aichi University of Education; \*\*School of Hygiene, Kitasato University)

[Chernobyl Fallout]

Introductory Lecture 13:35 - 13:50

Sugimura, I. (Geochemical Laboratory, Meteorological Research Institute)

- P17 The concentrations of Radionuclides in the Surface Air at Tsukuba Originating from Chernobyl Accident  
Aoyama, M., Hirose, K., Inoue, H., Suzuki, Y., and Sugimura, Y. (Geochemical Laboratory, Meteorological Research Institute)
- P18 Fallout Deposition of Gamma-Emitting Nuclides in Japan Derived from Accident of Chernobyl Nuclear Power Plant  
Aoyama, M., Hirose, K., and Sugimura, Y. (Geochemical Laboratory, Meteo-

rological Research Institute)

- P19 Physical and Chemical Behavior of Atmospheric Radionuclides from the Reactor Accident at Chernobyl  
Abe, M. and Abe, S. (National Institute of Radiological Sciences)
- P20 Metasequoia as a Possible Indicator Plant for Radioactive Iodine with Reference to the Chernobyl Accident  
Koyama, M., Takada, J., Matsushita, R., and Matsubara, T. (Research Reactor Institute, Kyoto University)
- P21 Radioactivities from Chernobyl Fallout ----- Search for Fission Products Including  $^{129}\text{I}$   
Hashimoto, T., Sakai, Y., Nonaka, M., Kudo, H., Sotobayashi, T., and Murakami, N.\* (Faculty of Science, Niigata University; \*Niigata College of Pharmacy)
- P22 Fallout from the Soviet Reactor Accident (1)  
Contents of  $\gamma$ -Emitters and Their Time Variations  
Kojima, S., Kamiya, A.\*, and Furukawa, M.\* (Radioisotope Center, Nagoya University; \*Faculty of Science, Nagoya University)
- P23 Fallout from the Soviet Reactor Accident (2)  
Contents of Strontium Isotopes and Cerium Isotopes  
Kamiya, A., Furukawa, M., Kojima, S.\* (Faculty of Science, Nagoya University; \*Radioisotope Center, Nagoya University)
- P24 Measurements of Radionuclides from the Reactor Accident in USSR  
Kikuchi, H., Ishikawa, Y., Suenaga, S., Satou, K., Satou, N., Yuda, K., and Nakamura, E.\* (Environmental Radioactivity Research Institute of Miyagi; \*Miyagi Prefectural Office)
- P25 Isotopic Ratio of Radioactive Cesium Released from the Reactor Accident at Chernobyl  
Sasoh, M., Mitsugashira, T., Suzuki, S., Takishima, T.\*, Kikuchi, H.\*\*,  
and Ishikawa, Y.\*\* (The Research Institute for Iron, Steel and Other Metals, Tohoku University; \*Miyagi Prefectural Office; \*\*Environmental Radioactivity Research Institute of Miyagi)
- P26 Levels and Chemical Species of Radionuclides in Environmental Samples Collected from Ibaraki after the Chernobyl Reactor Accident  
Muramatsu, Y. and Ohmomo, Y. (National Institute of Radiological Sciences)

Friday, October 24

Lecture Session

[Mössbauer Effects] (Continued)

(9:00 - 10:00)

3A01  $^{121}\text{Sb}$  Mössbauer Spectra of Halogenobis(dithiocarbamate)antimony(III) Complexes

Ohyama, R., Takahashi, M., and Takeda, M. (Faculty of Science, Toho University)

3A02 Mössbauer and NMR Spectroscopic Studies on Organoantimony(V) compounds

Yanaga, M., Endo, K., Nakahara, H., Ikuta, S.<sup>\*</sup>, Miura, T.<sup>\*\*</sup>, and Takeda, M.<sup>\*\*\*</sup> (Faculty of Science, Tokyo Metropolitan University; <sup>\*</sup>Department of General Education, Tokyo Metropolitan University; <sup>\*\*</sup>The Institute of Physical and Chemical Research; <sup>\*\*\*</sup>Faculty of Science, Toho University)

3A03 Mössbauer Spectroscopic Studies of  $(\text{C}_n\text{H}_{2n+1}\text{NH}_2)_2\text{SnCl}_6$

Katada, M., Nakai, S., and Sano, H. (Faculty of Science, Tokyo Metropolitan University)

(10:10 - 11:10)

3A04 Structure of Ionic Zinc Sulfate Glasses

Nishida, T., Saruwatari, S., and Takashima, Y. (Faculty of Science, Kyushu University)

3A05 Structure of Ionic Conducting Borate Glasses

Nishida, T., Ogata, M., and Takashima, Y. (Faculty of Science, Kyushu University)

3A06 Structure of Semiconducting Vanadate Glasses

Nishida, T., and Takashima, Y. (Faculty of Science, Kyushu University)

(11:20 - 12:00)

3A07 Mössbauer Spectra of Iron Oxide Layers on Iron Powders

Maeda, Y., Aramaki, M., and Takashima, Y. (Faculty of Science, Kyushu University)

3A08 Spin Transition of Spin-Crossover Iron(III) Complexes Adsorbed on the Surface of Silicone Dioxide

Maeda, Y., Tomokiyo, M., Ohshio, H., and Takashima, Y. (Faculty of Science, Kyushu University)

(Lunch Time 12:00 - 13:20)

(13:20 - 14:20)

3A09 Mössbauer Study on the States of Iron(III) Salts Adsorbed on Silica Gel

Kageyama, A., Sakai, Y., and Tominaga, T. (Faculty of Science, The University of Tokyo)

3A10 Characterization and Photochemical Study of Iron Compounds on Silica Gel by Mössbauer Technique

Matsushita, Y., Sato, H., Kozuka, M., and Tominaga, T. (Faculty of Science, The University of Tokyo)

3A11 Comparison of Electron Contact Densities Obtained from Mössbauer Isomer Shifts with MO Calculation

Miura, T. , Endo, K.\* , Nakahara, H.\* , and Ikuta, S.\*\* (The Institute of Physical and Chemical Research; \*Faculty of Science, Tokyo Metropolitan University; \*\*Department of General Education, Tokyo Metropolitan University)

[Environmental Radioactivity]

(9:00 - 10:00)

3B01 New Correction Methods for Counting Efficiency in Low-Level Tritium Measurements by Liquid Scintillation Counter

Hashimoto, T., Sakai, Y., Nonaka, M., and Kojima, Y.\* (Faculty of Science, Niigata University; \*Faculty of Engineering, Niigata University)

3B02 Tritium Concentration in Biological Samples

Momoshima, N., Inoue, M., and Takashima, Y. (Faculty of Science, Kyushu University)

3B03 Tritium Concentration in Urine

Momoshima, N., Nagasato, Y., and Takashima, Y., (Faculty of Science, Kyushu University)

(10:10 -11:10)

3B04 Self-Diffusion of HTO in Soil

Momoshima, N., Ogawa, T., and Takashima, Y. (Faculty of Science, Kyushu University)

3B05 Measurements of Atmospheric Tritium in Various Chemical Forms

Okai, T., Matsuura, T.\* , and Takashima, Y.\* (Faculty of Engineering, Kyushu University; \*Faculty of Science, Kyushu University)

3B06 Estimation of Residence Time of Groundwater by Tritium

Miyamoto, K., Ueki, C., Inoue, Y., and Iwakura, T. (National Institute of Radiological Sciences)

(11:20 - 12:20)

3B07 Determination of  $^3\text{H}$  and  $^{14}\text{C}$  Concentrations around an Incinerator for Radioactive Liquid Scintillator Waste

Kaji, T., Utsunomiya, K., Sugihara, S.\* , Momoshima, N., Osaki, S.\* , and Takashima, Y. (Faculty of Science, Kyushu University; \*Radioisotope Center, Kyushu University)

3B08 In Situ Chemisorption of Radionuclides from Sea Water

Higuchi, H., Nonaka, N., and Morimoto, T. (Japan Chemical Analysis Center)

3B09 Oxidation States of Cobalt-60 in Seawater-II

Hirano, S., Matsuba, M., and Koyanagi, T. (National Institute of Radiological Sciences)

(Lunch Time 12:20 - 13:20)

(13:20 - 14:20)

3B10 Simultaneous Determination of Radioactive and Stable Isotopes of Cobalt in Environmental Samples by the Isotopic Exchange Method

Obe, T. and Ikeda, N. (Department of Chemistry, The University of Tsukuba)

3B11 Concentrations of  $^{22}\text{Na}$  and  $^7\text{Be}$  in Rainwater and Its Time Variation

Furukawa, M., Kojiri, H.\* , and Kojima, S.\*\* (Faculty of Science, Nagoya University; \*Water Research Institute, Nagoya University; \*\*Radioisotope Center, Nagoya University)

3B12 Radiochemical Determination of Low-Level Technetium-99(II)  
Maruo, Y., Yoshizaki, Y., Idesawa, T., and Iwai, M. (Power Reactor and Nuclear Fuel Development Corporation)

[Accelerator and Their Applications] (Continued)

(9:00 - 10:00)

3C01 Substoichiometric Precipitation of Carbon  
Shikano, K., Yonezawa, H., Shigematsu, T., and Katoh, M. (NTT Electrocal Communications Laboratories)

3C02 Rutherford Backscattering Spectroscopy with a Small Cyclotron  
Yonezawa, H., Shikano, K., and Shigematsu, T. (NTT Electrical Communications Laboratories)

3C03 Study on Phase Transition in Heat Treatment of W/GaAs by Heavy Ion Scattering  
Yanokura, M., Sato, K., Aratani, M., Nozaki, T., and Saito, K.\* (The Institute of Physical and Chemical Research; \*Toshiba Ltd.)

(10:10 - 11:10)

3C04 Hydrogenated Surface Layers of Soda-Lime Glass Studied by the Forward Recoil Measurement with Heavy Ions  
Aratani, M., Yanokura, M., Qiu Qi\*, Sato, K., Byongon Yu\*, and Nozaki, T. (The Institute of Physical and Chemical Research; \*Faculty of Engineering, Tokyo Institute of Technology)

3C05 Depth Profiling of Light Elements in the Garnet Single Crystals Implanted with Hydrogen Ions  
Aratani, M., Yanokura, M., Qiu Qi\*, Sato, K., Imura, R.\*\* , and Nozaki, T. (The Institute of Physical and Chemical Research; \*Faculty of Engineering, Tokyo Institute of Technology; \*\*Central Research Laboratory, Hitachi Ltd.)

3C06 Diffusion of Nitrogen in Silicon Using  $^{15}\text{N}$  as an Activable Tracer  
Itoh, Y., Nozaki, T., Ohkubo, Y., Miura, T., and Mochizuki, Y.\* (The Institute of Physical and Chemical Research; \*Hitachi Research Laboratory)

(11:20 - 12:20)

3C07 Accuracy of Quantitative Hydrogen Analysis Using  $^{15}\text{N}$  Resonant Nuclear Reaction  
Amemiya, S., Ishikawa, K., Masuda, T., Tsurita, Y., and Katoh, T. (Faculty of Engineering, Nagoya University)

3C08 Application of MeV Region Ion Beam Technique for Study of Nuclear Waste  
Amemiya, S., Ishikawa, K., Tsurita, Y., Masuda, T., and Katoh, T. (Faculty of Engineering, Nagoya University)

3C09 Radioactive Aerosole Formed around KEK 12 GeV PS Beam Line (VI)  
Muramatsu, H. and Kondo, K. (National Laboratory for High Energy Physics)

(Lunch Time 12:20 - 13:20)



(13:20 - 14:20)

- 3C10 On the Behavior of Radon Daughters in the Accelerator Facility (2)  
Kondo, K. and Muramatsu, H. (National Laboratory for High Energy Physics)
- 3C11 Distribution of Trace Elements in Human Organs Using PIXE Analysis(II)  
Yukawa, M., Kitao, K., and Suzuki-Yasumoto, M.\* (National Institute of  
Radiological Sciences; \*The Tokyo Electric Power Company Incorporated)
- 3C12 Radioactive Implant Induced X-ray Emission Technique for Noninvasive  
Determination of Heavy Element Content in Human Tissues  
Amano, R. (The School of Allied Medical Professions, Kanazawa University)

