

11JA

11ème JOURNÉES DES ACTINIDES - JESOLO LIDO (Venezia) Italy
MAY 25-27, 1981

PROGRAM-ABSTRACTS LIST OF PARTICIPANTS

J. M. FOURNIER

11JA

11ème JOURNÉES DES ACTINIDES - JESOLO LIDO (Venezia) Italy
MAY 25-27, 1981

The Meeting is sponsored by:

ISTITUTO DI CHIMICA E TECNOLOGIA DEI RADIOELEMENTI DEL C.N.R.
PADOVA (ITALY)

ISTITUTO DI CHIMICA GENERALE ED INORGANICA DELL'UNIVERSITA'
DI PADOVA - PADOVA (ITALY)

and supported by:

CONSIGLIO NAZIONALE DELLE RICERCHE - ROMA (ITALY)

UNIVERSITA' DEGLI STUDI DI PADOVA - PADOVA (ITALY)

AZIENDA AUTONOMA DI SOGGIORNO E TURISMO - LIDO DI JESOLO
VENEZIA (ITALY)

REGIONE DEL VENETO - VENEZIA (ITALY)

CASSA DI RISPARMIO DI PADOVA E ROVIGO - PADOVA (ITALY)

CASSA DI RISPARMIO DI VENEZIA - VENEZIA (ITALY)

OFFICINE GALILEO - FIRENZE (ITALY)

Organizers: G. BOMBIERI
Istituto di Chimica Generale dell'Università di
Messina - MESSINA (ITALY)

G. DE PAOLI and P. ZANELLA
Istituto di Chimica e Tecnologia dei Radioelemen
ti del C.N.R. - PADOVA (ITALY)

Secretaries: M. MAGNABOSCO and P. DESTRO
Istituto di Chimica e Tecnologia dei Radioelemen
ti del C.N.R. - PADOVA (ITALY)

FOREWORD

THE ELEVENTH EDITION OF THE "JOURNÉES DES ACTINIDES" WAS HELD AT JESOLO LIDO, ITALY. A TOTAL OF 169 SCIENTISTS PRESENTED RECENT RESULTS IN THE FIELD OF THE CHEMISTRY AND PHYSICS OF THE ACTINOID ELEMENTS.

THE MAJORITY OF THE PARTICIPANTS WERE EUROPEAN, BUT IT SEEMS THAT SCIENTISTS FROM FURTHER AFIELD ARE BEING ATTRACTED BY THE REPUTATION OF THESE JOURNÉES, AS THE FOLLOWING FIGURES DEMONSTRATE: FRANCE HAD 46 PARTICIPANTS, GERMANY (BRD) 30, ITALY 28, U.K. 19, POLAND 12, SWITZERLAND 12, USA 10, RUSSIA 4, TWO EACH FROM SWEDEN, PORTUGAL AND BELGIUM, ONE EACH FROM THE NETHERLANDS AND ISRAEL.

53 COMMUNICATIONS WERE DELIVERED ON THE FOLLOWING SUBJECTS:

- A) COORDINATION AND ORGANOMETALLIC CHEMISTRY,
- B) MAGNETIC PROPERTIES OF THE 5f ELEMENTS,
- C) SPECTROSCOPIC STUDIES, INCLUDING X-RAY AND NEUTRON DIFFRACTION ANALYSIS.

THE MEETING WAS ABLE TO MAINTAIN ITS INFORMAL CHARACTER, EVEN THOUGH CERTAIN CHANGES IN THE ORGANIZATION HAD TO BE INTRODUCED. DUE TO THE HIGH NUMBER OF PARTICIPANTS, AND CONSEQUENTLY THE INCREASED NUMBER OF CONTRIBUTIONS, THE MEETING HAD TO BE PROLONGED BY AN EXTRA DAY AND DISCUSSIONS WERE GROUPED ACCORDING TO TOPICS, THUS ALLOWING GREATER EXCHANGE BETWEEN SPECIALISTS WORKING IN SIMILAR FIELDS.

IN THIS LATEST BOOK OF PROCEEDINGS, 25 FULL PAPERS AND

28 PRELIMINARY ABSTRACTS HAVE BEEN COLLECTED TOGETHER. THE CONSIDERATION SHOWN BY THE AUTHORS IN SENDING US THEIR FINAL VERSION OF THE PAPER PRESENTED AT JESOLO WAS MUCH APPRECIATED, ALTHOUGH ACTUAL PUBLICATION HAD TO BE SOMEWHAT DELAYED DUE TO A RATHER SLOW RESPONSE.

WE WOULD LIKE TO EXPRESS OUR GRATITUDE TO PROF. UGO CROAT TO FOR THE ENCOURAGEMENT HE GAVE TO THE ORGANIZERS OF THE MEETING, AND ALSO TO THE COLLABORATORS, WHO HELPED MAKE IT SUCH A SUCCESS.

WE LOOK FORWARD TO THE NEXT EDITION OF THE JOURNÉES.

GABRIELLA BOMBIERI
Istituto di Chimica Generale
Università di Messina
Messina, Italy

GIOVANNI DE PAOLI and PIERINO ZANELLA
Istituto di Chimica e Tecnologia dei
Radioelementi del C.N.R.
Padova, Italy

Padova, January 1982

FOREWO

PROGRA

CONTRI

LIST OF

PROGRAMME

MONDAY: MAY 25th, 1981

- 8.00 - 8.30 BREAKFAST
- 9.00 - 9.30 WELCOME ADDRESS. (PROF. UGO CROATTO)
- 9.30-10.15 PLENARY LECTURE
- L(1) K.W. BAGNALL : *Trans effects in actinide chemistry.*
- CHAIRMAN: D. BROWN
- 10.15-10.25 (1) R.D.FISCHER, E.KLÄNE, G.R.LANDGRAF and G.R.SIENEL
Anionic tris(cyclopentadienyl)uranium(IV) complexes: a novel kind of "trans-effect" in organo-actinide chemistry.
- 10.25-10.35 (2) F.BILLIAU, G.FOLCHER, H.MARQUET-ELLIS, P.RIGNY and E.SAITO
The reduction of the uranium(IV) cyclo-octatetraene complex. Characterization and properties of the new U^{III} compound.
- 10.35-10.45 (3) J.GOFFART
Preparation and properties of some oxygen-donor complexes of indenyl actinides.
- 10.45-11.05 DISCUSSION
- 11.05-11.30 BREAK
- CHAIRMAN: R. D. FISCHER
- 11.30-11.40 (4) K.W.BAGNALL, M.J.PLEWS and D.BROWN
Preparation and characterization of some new uranium(IV), neptunium(IV) and plutonium(IV) cyclopentadienyl complexes.
- 11.40-11.50 (5) R.KLENZE, A.H.STOLLENWERK, J.MÜLLER and B.KANELLAKOPULOS
EPR - studies on neptuniumtetracyclopentadienide.

- 11.50-12.00 (6) T.C.TSO, D.BROWN, A.I.JUDGE, J.HOLLOWAY and J.FUGER
Preparation and thermochemical properties of alkali metal uranates(VI) and neptunates(VI).
- 12.00-12.10 (7) A.A.PINKERTON, A.E.STOREY, J-M.ZELLWEGER and D.SCHWARZENBACH
Preparation, characterization and structures of some dithiophosphate complexes of thorium and uranium.
- 12.10-12.20 (8) A.J.SMITH
The coordination chemistry of thorium compounds.
- 12.20-12.30 (9) W.GRAPE, E.STUMPP and H.D.AMBERGER
Synthesis, spectroscopic and paramagnetic resonance investigations of Rubidium hexafluorouranate(V).
- 12.30-12.50 DISCUSSION
- 13.00 LUNCH
- CHAIRMAN: G. FOLCHER
- 15.00-15.10 (10) G.A.BATTISTON, S.DEGETTO, S.SBRIGNADELLO and M.FAGGIN
Preparation and characterization of some uranyl-pyrazine-2,3,dicarboxylate complexes.
- 15.10-15.20 (11) D.BROWN, J.A.BERRY and J.A.HOLLOWAY
Halogen exchange and complexation reactions of actinide fluorides.
- 15.20-15.30 (12) A.MARZOTTO
A ^1H and ^{13}C n.m.r. study on the interaction of dioxouranium(VI) with imidazole, N-methyl imidazole and L-histidine.
- 15.30-15.40 (13) B.GUILLAUME, G.M.BEGUN, R.L.HAHN and A.H.NARTEN
Studies of cation-cation complexes of pentavalent actinides in aqueous perchloric solutions.
- 15.40-15.50 (14) R.LUNDQVIST and JIU-FANG LU
Phosphate complexing of actinide ions in neutral aqueous solutions.

15.50-16.00 (15) C.MUSIKAS, R.FITOUSSI and D.PATTEE-VIA
LARD-GOUDOU
*Different complexes for trivalent actinide
and lanthanide in the same chemical environ-
ment.*

16.00-16.20 DISCUSSION

16.20-16.50 BREAK

CHAIRMAN: R. LUNDQVIST

16.50-17.00 (16) L.R.MORSS, J.FUGER and R.G.HAIRE
*Enthalpy of formation of curium dioxide
and curium sesquioxide.*

17.00-17.10 (17) F.DAVID and P.DAVID
Hydration of lanthanide and actinide ions.

17.10-17.20 (18) C.LADIRAT and C.MADIC
*Rapid scanning spectrophotometric study
of the transient species formed during the
reduction of uranyl ion by hydroxymethane
sulphinat ion (rongalite) in perchlorate
medium.*

17.20-17.30 (19) F.WEIGEL, R.FISCHER, D.LAWALDT, G.D.WERNER,
Th.LEHMANN and G.HOFFMANN
*On some phosphates and arsenates of hexa-
valent plutonium and americium.*

17.30-17.40 (20) N.W.ALCOCK, M.M.ROBERTS and D.BROWN
*The structure of two actinyl(VI) acid
sulphates.*

17.40-17.50 (21) R.G.DENNING, J.O.W.NORRIS, P.J.STONE and
D.BROWN
Spectroscopic studies of the neptunyl ion.

17.50-18.00 (22) D.E.FENTON, P.A.VIGATO, U.CASELLATO, R.GRA-
ZIANI and M.VIDALI
*The preparation and crystal structure of
N,N'-bis(salicylidene)-1,5-diamino-3-thia-
pentane-dioxouranium(VI)*

18.00-18.20 DISCUSSION

20.30 BANQUET

TUESDAY: MAY 26th, 1981

8.00 - 8.30 BREAKFAST

9.00 - 9.45 PLENARY LECTURE

L(2) R. TROĆ : *Magnetic behaviour of solid solutions based on UP.*

CHAIRMAN: M. PAGÉS

9.45 - 9.55 (23) A.ZYGMUNT
Structure and magnetic orderings of ternary uranium compounds.

9.55-10.05 (24) E.SOULIÉ, C.H.DE NOVION and A.BLAISE
Paramagnetisme de l'uranium(+4) dans une solution solide diluée de UO₂ dans ThO₂.

10.05-10.15 (25) D.DAMIEN and C.H. DE NOVION
Supraconductibilité dans la phase dechevrel a base d'actinide. Np_{1-x}Mo₆Se₈.

10.15-10.35 DISCUSSION

10.35-11.05 BREAK

CHAIRMAN: W. MÜLLER

11.05-11.15 (26) J.ROSSAT-MIGNOD, S.QUEZEL, P.BURLET, A.BLAISE, J.M.FOURNIER, D.A.DAMIEN and A.WOJAKOWSKI
Magnetic ordering in neptunium diarsenide.

11.15-11.25 (27) A.DELAPALME, A.BLAISE, J.M.FOURNIER, D.DAMIEN and J.P.CHARVILLAT
Magnetic form factor of Np in NpAs₂.

11.25-11.35 (28) M.FIEDLER, K.REGGENTIN and W.SCHLABITZ
The magnetic behaviour of U_{1-x}Gd_xAl₂.

11.35-11.45 (29) W.SUSKI, B.JANUS and A.BLAISE
Magnetic properties of the uranium trichalcogenides.

11.45-11.55 (30) P.BURLET, S.QUEZEL, J.ROSSAT-MIGNOD, H.BARTHOLIN and O.VOGT
Magnetization and neutron diffraction investigation of the magnetic phase diagram of UAs.

11.55-12.05 (31) R.O.A.HALL, M.J.MORTIMER and G.H.LANDER
Low temperature specific heat of PuP.

12.05-12.25 DISCUSSION

12.40 LUNCH

o - o - o - o

14.00 EXCURSION BY BOAT

20.00 DINNER

WEDNESDAY: MAY 27th, 1981

8.00 - 8.30

BREAKFAST

9.00 - 9.45

PLENARY LECTURE

- L(3) J. GAL : *Does the Mössbauer high pressure experiment contribute some new aspects in understanding the counter play between localized and itinerant-electron magnetism in the actinides?*

CHAIRMAN: W. SUSKI

9.45 - 9.55

(32)

T.THEVENIN, M.PAGÈS, J.GAL and D.DAMIEN
Mössbauer effect and magnetisation studies of some neptunium chalcogenides.

9.55-10.05

(33)

E.SIMONI, H.ABLAZI, A.COUSSON and M.PAGÈS
Etude par resonance Mössbauer et susceptibilité magnétique des composés Ba_2MnPO_6 .

10.05-10.15

(34)

A.T.ALDRED, L.KOPROWICZ, J.MULAK, S.WEGLOWSKI and B.WROBEL
A new crystalline phase in the $UO_2-SO_3-H_2O$ system.

10.15-10.25

(35)

E.F.WESTRUM Jr., R.BURRIEL and E.H.P.CORDFUNKE
Thermophysics of some UM_3 intermetallics from 5 to 850 K.

10.25-10.45

DISCUSSION

10.45-11.15

BREAK

CHAIRMAN: E.F. WESTRUM Jr.

11.15-11.25

(36)

J.R.NAEGELE
Recent photoemission studies (UPS/XPS) of NpO_2 and PuO_2 .

11.25-11.35

(37)

J.BRUNNER, M.ERBUDAK and F.HULLIGER
Photoemission from UPS and UAsSe.

11.35-11.45

(38)

P.DELAMOYE, C.KHAN MALEK, S.HUBERT, J.C. KRUPA, M.GENET and R.GUILLAUMONT
High resolution spectroscopy of U^{4+} ion in some thorium and uranium halides.

- 11.45-11.55 (39) U.BENEDICT
The high pressure phase of uranium dioxide.
- 11.55-12.05 (40) HJ. MATZKE
Surface energies of actinide compounds of the fluorite and the rocksalt structure using the herzian indentation method.
- 12.05-12.15 (41) Z.HENKIE, R.MASLANKA, M.KONCZYKOWSKI
Transport properties and pressure effect on resistivity in uranium pnictides with Th₃P₄ structure.

12.15-12.35 DISCUSSION

13.00 LUNCH

CHAIRMAN: B.T.M. WILLIS

- 15.00-15.20 (42) G.V. IONOVA, V.I.SPITSYN, V.G.PERSHINA and V.S.MIRONOV (invited)
Relation of the electronic structure to the lattice distortions and stability for actinide systems.
- 15.20-15.30 (43) J.SCHOENES, M.KÜNG and Z.HENKIE
The role of the 5f electrons in U₃P₄.
- 15.30-15.40 (44) A.WOJAKOWSKI, D.DAMIEN and Y.HERY
Phosphures de protactinium PaP₂ et Pa₃P₄.
- 15.40-15.50 (45) P.DELAMOYE, M.HUSSONNOIS, R. de KOUCHKOSKI and C.ZEYEN
Incommensurate modulated low temperature phase of β-ThBr₄.
- 15.50-16.00 (46) A.BOEUF, J.M.FOURNIER, L.MANES, J.REBIZANT and F.RUSTICHELLI
Neutron diffraction study of ²³⁹PuN.

16.00-16.20 DISCUSSION

16.20-16.50 BREAK

CHAIRMAN: F. RUSTICHELLI

- 16.50-17.00 (47) B.T.M.WILLIS and A.ALBINATI
The thermodynamic properties of uranium dioxide at high temperatures: their study by neutron scattering techniques.

- 17.00-17.10 (48) A. BOEUF, J.M. FOURNIER, L. MANES and F. RUSTICHELLI
Study of a structural phase transition on a UMn_2 single crystal by γ -Ray diffraction.
- 17.10-17.20 (49) M. ERBUDAK and G. RAVANO
Spin dependent electro emission from uranium metal.
- 17.20-17.30 (50) B. McCART, G.H. LANDER and A.T. ALDRED
Structural and magnetic studies of hexagonal Pu_2O_3 .
- 17.30-17.50 DISCUSSION
- 17.50 CONCLUSIONS

AND "ARRIVEDERCI"

o - o - o - o