



16^{emes} Journées des Actinides

P R O G R A M,
A B S T R A C T S,
L I S T O F P A R T I C I P A N T S

ORGANIZED BY:

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Sponsored by the Deutsche Forschungsgemeinschaft

P R O G R A M

SUNDAY, APRIL 27, 1986

- 16.00 - 20.00 REGISTRATION
- 19.30 - 22.00 WELCOME PARTY (buffet dinner, bavarian style)

MONDAY, APRIL 28, 1986

- 8.00 - 8.45 REGISTRATION
- 8.45 - 9.00 WELCOME ADDRESS: G.M. KALVIUS
OPENING REMARKS: J. GAL
- 9.00 - 10.30 SESSION I: ELECTRONIC STRUCTURE 1
CHAIRPERSON: R. TROC
1. RELATIVISTIC ELECTRONIC STRUCTURE OF Pu CHALCOGENIDES
M.S.S. Brooks
 2. ELECTRONIC STRUCTURE OF URANIUM INTERMETALLIC COMPOUNDS
O. Eriksson
 3. PHONON DISPERSION CURVES OF UMn_2
*J.M. Fournier, R. Caciuffo, G.H. Lander,
L.P. Regnault, J. Rossat-Mignod, J.C. Spirlet*
 4. HIGHLY CORRELATED METALLIC LIGHT ACTINIDES SYSTEMS
B.R. Cooper, G. Hu, N. Kioussis, J.M. Wills
 5. STRUCTURAL STUDY OF ACTINIDE COMPOUNDS UNDER HIGH
PRESSURE
U. Benedict, J. Staun Olsen, L. Gerward, S. Dabos
- See also posters A.1, A.2
- 10.30 - 11.00 COFFEE BREAK

MONDAY, APRIL 28, 1986 (CONT.)

11.00 - 12.30

SESSION II; ELECTRONIC STRUCTURE 2

CHAIRPERSON; F. STEGLICH

1. ELECTRONIC STRUCTURE OF UPt_3 : FIRST EXPERIMENTAL EVIDENCE OF A meV GAP BELOW E_F
*F. Marabelli, G. Travaglini, P. Wachter,
J.J.M. Franse*
2. THE HALL EFFECT OF SINGLE CRYSTALLINE UPt_3
J. Schoenes, J.J.M. Franse
3. DEVELOPMENT OF HEAVY FERMION STATE IN URANIUM COMPOUNDS
*B.D. Dunlap, S.K. Malik, H.A. Kierstead,
G.W. Crabtree, D.J. Lam, A.W. Mitchell, F.J. Litterst*
4. ANGLE-RESOLVED AND RESONANT PHOTOEMISSION OF UGe_3
B. Reihl, A.J. Arko, D.D. Koelling, Z. Fisk
5. SOME ASPECTS OF SYSTEMATICS ACROSS UXT SERIES
*V. Sechovsky, L. Havela, F.R. deBoer, P.A. Veenhuizen,
J.J.M. Franse, A.V. Andreev*

See also posters A.3 to A.7

12.30 - 17.00

FREE

MONDAY, APRIL 28, 1986 (CONT.)

17.00 - 17.15 COFFEE

17.15 - 18.30 SESSION III: ANALYTICAL TECHNIQUES

CHAIRPERSON: M. BEUVY

1. RECENT PROGRESS IN THE DETERMINATION OF TRACE IMPURITIES IN ACTINIDES BY SPARK SOURCE MASS SPECTROMETRY
G. Pattyn-Fauville, J. Fuger
2. SPECIATION OF TRU ELEMENTS IN NEAR NEUTRAL SOLUTION BY LASER INDUCED PHOTOACOUSTIC SPECTROSCOPY
R. Klenze, R. Stumpe, J.I. Kim
3. STUDIES OF THE SPECIATION OF NEPTUNIUM, PLUTONIUM AND AMERICIUM IN CONCENTRATED SALINE SOLUTIONS AND THEIR MIGRATION THROUGH CRUSHED SALT
A.R. Flambard, G. Marx, V.H.-G. Eber, H.-U. Fushan, Ch.D. Keiling, Mao Jia-jun
4. ANALYSIS OF PLUTONIUM TELLURIDE SINGLE CRYSTALS
O. Cromboom, H. Kutter

19.00 - 20.30 DINNER

20.30 - 22.00 SESSION IV: POSTERS A

1. EFFECT OF PRESSURE ON MAGNETIC PROPERTIES OF NpAs
Ulrike Potzel, W. Potzel, J. Moser, F.J. Litterst, G.M. Kalvius, M. Boge, J. Chappert, J.C. Spirlet
2. TEMPERATURE DEPENDENT N.Q.R. BEHAVIOR OF THE HALIDE ION IN UCl_4 AND $ThBr_4$
C. Khan Malek, M.S. Caceci, Z. Zolnierok
3. MAGNETIC PROPERTIES OF NpM_4Al_{8-x} (M = Cr, Fe, Cu) INTERMETALLICS: MOSSBAUER EFFECT AND NEUTRON DIFFRACTION STUDIES
J. Gal, H. Pinto, S. Fredo, H. Shaked, W. Schäfer, G. Will, F.J. Litterst, W. Potzel, L. Asch, G.M. Kalvius

cont ...

SESSION IV: POSTERS A (CONT.)

4. MAGNETIC PROPERTIES OF THE UCr_4Al_8 AND UMn_4Al_8
INTERMETALLICS
A. Baran, W. Suski, T. Mydlarz
5. MAGNETIC PROPERTIES OF SOME URANIUM TERNARIES WITH
THE Fe_2P TYPE CRYSTAL STRUCTURE
R. Troc
6. MAGNETOCHEMISTRY AND CRYSTAL CHEMISTRY OF TERNARY
ACTINOIDMETAL-SILICIDES (Th,U) (Cu,Ru,Os,Ir,Pt) $_2Si_2$
K. Hiebl, P. Rogl
7. MAGNETIZATION MEASUREMENTS ON A URu_2Si_2 SINGLE
CRYSTAL
H. Noel, A. Zygmunt
8. INTERPRETATION OF THE MAGNETIC PROPERTIES AND MÖSS-
BAUER SPECTRA OF Np_3As_4 IN A CRYSTAL FIELD MODEL
*G. Amoretti, A. Blaise, M. Boge, J.M. Fournier,
A. Wojakowski*
9. NEUTRON DIFFRACTION STUDY OF THE $U_xNp_{1-x}O_2$ FLUORITES
*A. Boeuf, R. Caciuffo, M. Pages, J. Rebizant,
F. Rustichelli, A. Tabuteau*
10. MAGNETIC PROPERTIES OF $NpOSe$
*J.M. Collard, A. Blaise, M. Boge, D. Bonnissseau,
J. Larroque, M. Beauvy*
11. ^{237}Np MÖSSBAUER SPECTROSCOPY ON $NpOS$
*D. Bonnissseau, J.M. Collard, M. Boge, F.J. Litterst,
J. Larroque, M. Beauvy*
12. SYSTEMATIC OF ^{237}Np ISOMER SHIFT IN NEPTUNIUM
CHALCOGENIDES
B.D. Dunlap
13. OPTICAL PROPERTIES OF US_3 and UTE_3 SINGLE CRYSTALS
J. Schoenes, P. Fumagalli, N. Noel
14. ELECTRICAL RESISTIVITY OF THE $PuTe$ - $PuSb$ SYSTEM
*P.G. Therond, A. Blaise, J.M. Fournier,
J. Rebizant, J.C. Spirlet, O. Vogt*

TUESDAY, APRIL 29, 1986

9.00 - 10.30

SESSION V: CHALCOGENIDES AND Pnictides

CHAIRPERSON: A. BLAISE

1. TRANSITION FROM ORDERED MAGNETISM TO TEMPERATURE-INDEPENDENT PARAMAGNETISM IN $\text{PuSb}_x\text{Te}_{1-x}$ MIXED CRYSTALS
K. Mattenberger, O. Vogt, J.C. Spirlet, J. Rebizant
2. ^{121}Sb MÖSSBAUER SPECTROSCOPY IN ACTINIDE MONO-PNICTIDES $\text{PuSb}_{1-x}\text{Te}_x$ ($0 < x < 0.4$) USb AND NpSb
J.P. Sanchez, J.C. Spirlet, J. Rebizant, O. Vogt
3. PRELIMINARY REPORT ON SPATIAL EXTENT OF INDUCED MOMENT IN PuTe
G.H. Lander, A. Delapalme, P.J. Brown, J.C. Spirlet, J. Rebizant, O. Vogt
4. MAGNETIC ORDERING OF PuBi
P. Burlet, S. Quezel, J. Rossat-Mignod, J.C. Spirlet, J. Rebizant, O. Vogt
5. A HIGH-RESOLUTION NEUTRON DETERMINATION OF THE CRYSTAL FIELD SPLITTING OF UO_2
R. Osborn, M.A. Hackett, W. Hayes, M.T. Hutchings, B.C. Boland, Z.A. Bowden, A.D. Taylor

See also posters A.8 to A.14

10.30 - 11.00

COFFEE BREAK

TUESDAY, APRIL 29, 1986 (CONT.)

11.00 - 12.30

SESSION VI: SOLID STATE CHEMISTRY AND NEW COMPOUNDS

CHAIRPERSON: C. KELLER

1. PHOTOEMISSION STUDY OF UNi_2 OXIDATION
T. Gouder, J. Naegele, D.D. Sarma, J.J. Verbist
2. CHARACTERIZATION OF A NEW FORM OF THE URANIUM TRITELLURIDE UTe_3 WITH THE $NdTe_3$ TYPE STRUCTURE
H. Noel
3. ACTINIDE (IV) DERIVATIVES WITH PENTAGONAL BIPYRAMIDAL COORDINATION GEOMETRY
G. Bombieri, F. Benetollo, A. Polo
4. PLUTONYL NITRATE
F. Weigel, G. Hoffmann, M. Steinhauser
5. SYNTHESIS AND CHARACTERIZATION OF HYDRATED URANIUM /III/ COMPLEX CHLORIDES
J. Drozdzyński

See also poster B.1 to B.7

12.30 - 16.45

FREE

TUESDAY, APRIL 29, 1986 (CONT.)

16.45 - 17.00 COFFEE

17.00 - 18.30

SESSION VII: SOLUTION CHEMISTRY

CHAIRPERSON: G. MARX

1. SOLUBILITY OF AmOHCO_3 IN AQUEOUS SOLUTION
PERTINENT TO NUCLEAR WASTE DISPOSAL
H. Nitsche
2. CARBOXYLIC ACIDS AMIDES AS NEW ACTINIDES
EXTRACTANTS
*C. Musikas, J.C. Morisseau, N. Descouls,
H. Hubert, P. Hoël*
3. DISSOLUTION OF PuO_2 IN PRESSURIZED HNO_3 BY
AUTOCLAVE REFLUXING
F. Weigel, G. Hoffmann, M. Steinhauser
4. THE INTERACTION OF Np(V) WITH HUMIC AND FULVIC
ACID: PRELIMINARY RESULTS BY SPECTROPHOTOMETRY
AND ULTRAFILTRATION
M.S. Caceci, B.E. Stout, F. Nectoux
5. REACTION KINETICS FOR THE RADIOLYTIC OXIDATION OF
ACTINIDE IONS IN CONCENTRATED CHLORIDE SOLUTIONS
Ch. Lierse, J.C. Sullivan, K.H. Schmidt

See also poster B.8

19.00 - 20.30 DINNER

20.30 - 22.00

SESSION VIII: POSTERS B

TUESDAY, APRIL 29, 1986 (CONT.)

20.30 - 22.00

SESSION VIII: POSTERS B

1. SYNTHESIS AND STRUCTURE OF
 $[(UO_2)_6(N_3)_{16}O_2]^{8-}[(CH_3)_4N]_8^+ \cdot 2H_2O$
*J. Livet, C. Musikas, M. Nierlich, P. Charpin,
D. Vigner*
2. ACTINIDE-BORON PHASE DIAGRAM INVESTIGATION
R. Chipaux, J. Larroque, M. Beauvy
3. STRUCTURAL FEATURES OF URANIUM IV BOROHYDRIDE AND
OF $U(BH_4)_4L_2$ ADDUCTS
*P. Charpin, G. Chevrier, M. Lance, M. Nierlich,
D. Vigner*
4. TERNARY URANIUM PALLADIUM CHALCOGENIDES:
CHARACTERIZATION OF THE FIRST URANIUM
INTERMETALLIC CLUSTER: "PdU₂"
A. Daoudi, H. Noel
5. CRYSTAL STRUCTURE OF $K_9U_6O_{22.5}$ AND MÖSSBAUER
(²³⁷Np) SPECTRA OF NEPTUNIUM RELATED COMPOUNDS
*J. Jove, F. Nectoux, A. Cousson, M. Pages,
M.-C. Saine, M. Gasperin*
6. INSERTION OF TRIVALENT URANIUM IN MACROCYCLIC
CROWN-ETHERS: EXAFS AND X-RAY STRUCTURAL ANALYSES
*A. Dejean, P. Charpin, G. Folcher, P. Rigny,
A. Navaza, G. Tsoucaris*
7. SPECTROSCOPIC PROPERTIES OF URANIUM /III/ COMPOUNDS
J. Drozdzyński
8. OPTICAL ABSORPTION SPECTRA OF Pu(IV) IN CARBONATE/
BICARBONATE MEDIA
M. Eiswirth, J.I. Kim, Ch. Lierse

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SESSION VIII: POSTERS B (CONT.)

9. SYNTHESIS AND CHARACTERIZATION OF HYDROTRIS (3,5-DIMETHYL-PYRAZOLYL)BORATE URANIUM (IV) DIETHYLAMIDES
*J. Marcalo, N. Marques, A. Pires de Matos,
I. Santos*
10. SYNTHESIS AND CRISTAL STRUCTURE OF $(C_5H_5)_3USn(C_6H_5)_3$:
FIRST EXAMPLE OF A U-Sn BOND
*M. Porchia, U. Casellato, F. Ossola, G. Rossetto,
P. Zanella, R. Craziani*
11. INSERTION OF ISOCYANIDE INTO THE U-N BOND OF
 Cp_3UNet_2
*P. Zanella, N. Brianese, U. Casellato, F. Ossola,
M. Porchia, G. Rossetto, R. Graziani*
12. ORGANOMETALLIC URANIUM BOROHYDRIDES
D. Baudry, M. Ephritikhine, G. Folcher
13. URANIUM (IV) POLY (PYRAZOLYL) BORATE TERT-BUTOXIDE
DERIVATIVES
J. Marcalo, N. Marques, A. Pires de Matos, I. Santos
14. MÖSSBAUER EFFECT INVESTIGATIONS ON ORGANOMETALLIC
 ^{237}Np COMPOUNDS
*G. Adrian, H. Appel, R. Bohlander, H. Haffner,
B. Kannellakopoulos, Th. Krüger*

WEDNESDAY, APRIL 30, 1986

9.00 - 10.15

SESSION IX: ORGANOMETALLICS

CHAIRPERSON: G. BOMBIERI

1. NEW ORGANOMETALLIC COMPOUNDS OF LANTHANIDES AND ACTINIDES
J. Goffart
2. ORGANOMETALLIC CHEMISTRY OF NEPTUNIUM
R. Bohlander, B. Kanellakopoulos, C. Keller
3. STRUCTURE AND MAGNETISM OF ORGANOMETALLIC ACTINOID AND LANTHANOID COMPOUNDS
B. Kanellakopoulos, Ch. Apostolidis
4. CHAMP CRISTALLIN ELECTROSTATIQUE D'UN COMPOSE DE COORDINATION DE L'URANIUM: $U(tfba)_4$
E. Soulie, M. Faucher

See also posters B9 to B14

10.15 - 10.45

COFFEE BREAK

10.45 - 12.00

SESSION X: SUMMARY AND PERSPECTIVES

CHAIRPERSON: P. ERDÖS

*Speakers**: W. Suski, J. Fuger, W. Müller

* not yet confirmed

POSTDEADLINE CONTRIBUTIONS

1. MAGNETIC BEHAVIOR OF THE HEAVY FERMION SUPER-
CONDUCTOR URu_2Si_2
*W. Schlabit, J. Baumann, E. Holland-Moritz,
B. Pollit, U. Rauschwalbe, H.M. Mayer, U. Ahlheim,
C.D. Bredl*
2. MAGNETIZATION MEASUREMENTS ON SINGLE CRYSTALS
OF PuFe_2
*M. Wulff, J.C. Spirlet, J. Rebizant, G.H. Lander,
O. Vogt, K. Mattenberger*
3. LOW TEMPERATURE SPECIFIC HEATS AND MAGNETIC SUS-
CEPTIBILITIES DUE TO RANDOM SPLITTING OF CRYSTALLINE
ELECTRIC FIELD STATES
F.J. Litterst

MONDAY, April 28, 1986	TUESDAY, April 29, 1986	WEDNESDAY, April 30, 1986
08.45-09.00 Opening		
09.00-10.30 I. Electronic Structure 1	09.00-10.30 V. Chalcogenides and Pnictides	09.00-10.15 IX. Organometallics
10.30-11.00 COFFEE BREAK	10.30-11.00 COFFEE BREAK	10.15-10.45 COFFEE BREAK
11.00-12.30 II. Electronic Structure 2	11.00-12.30 VI. Solid State Chemistry and New Compounds	10.45-12.00 X. Summary and Perspectives
12.30-17.00 FREE	12.30-16.45 FREE	
17.00-17.15 COFFEE	16.45-17.00 COFFEE	
17.15-18.30 III. Analytical Techniques	17.00-18.30 VII. Solution Chemistry	
19.00-20.30 DINNER	19.00-20.30 DINNER	
20.30-22.00 IV. Posters A	20.30-22.00 VIII. Posters B	