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SUPPLEMENT TO

SOUTH AFRICAN NATIONAL BIBLIOGRAPHY ON RADIOANALYTICAL CHEMISTRY

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PREFACE

The South African National Bibliography on Radioanalytical Chemistry was initiated by Dr Max Peisach of the National Accelerator Centre, Faure (formerly SUNI) and is intended to cover books, papers and reports published by South African scientists while affiliated to South African institutes, even if the work was carried out at foreign laboratories. The first edition (SUNI 56) covered material published to the end of 1977. The present edition is a supplement to the former and covers the period 1975 to 1982.

As shown in the Subject Index, the papers are divided into two categories. The first consists of papers on Activation Analysis, whether delayed or prompt and deals with the following:

- Charged particle activation analysis
- Neutron activation analysis
- Photon activation and X-ray (including particle-induced X-ray emission, PIXE)
- Prompt analysis

and Scattering, but is restricted to nuclear particle scattering.

The second category deals with Radioanalytical Methods, a subject which is very wide and not clearly defined. To restrict the subject matter to those papers which stress the analytical approach and use nuclear techniques, this category has been sub-divided into the following subjects:

- Absolute standardisation
- Computer techniques directly concerned with analysis
- Counting techniques for measuring radionuclides, nuclear particles or emissions
- Environmental monitoring related to the measurement of radioactive substances
- Instrumentation and techniques related to nuclear analytical methodology
- Isotope dilution analysis
- Low activity measurements
- Natural radioactivity counting
- Radiography
- Radiotracer methods excluding the routine diagnostic use of radionuclides in medicine

and Separation techniques.

Titles are arranged in order of the year of publication, and with each year in alphabetical order of the surname of the first (and thereafter the next) author.

Authors of suitable publications which may have been omitted from the Bibliography in error are invited to submit full details to the Chief Librarian, NUCOR for possible inclusion in a later edition.

D. van As
Chairman: Subcommittee for Nuclear Technology

- 75BAS J.K. BASSON, A. SELZER
Unexpected radium-226 build-up in pyrite-burning sulphuric acid plants
Health Physics 28 1975 123-126
- 75BIB D.M. BIBBY, B.T. EDDY, D.C.G. PEARTON
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg
Determination of zirconium and aluminium in alloys slags and fumes by 14-MeV neutron activation analysis
Anal. Chim. Acta 78 1976 115
- 75LOO W.P.V. LOO
University of the Witwatersrand, Johannesburg
The separation of the rare earths and other trace elements from Kimberlite minerals by radiochemical techniques and their determination by neutron activation analysis
M.Sc. thesis. University of the Witwatersrand, 1975
- 75RAS S.E. RASMUSSEN
National Institute for Metallurgy, Johannesburg
Possible sources of error in the measurement of gamma ray spectra. Colloquium on "Problems and errors in Neutron Activation Analysis". Atomic Energy Board, Pelindaba, South Africa, 22 October 1975, 1975
NPRU - 75/5, ISBN 0 85494 545 5, 11 p.
- 75VIS C.J. VISSER, W.L. MOUTON
Fruit and Fruit Technology Research Institute, Stellenbosch. Energy spectrum of relatively large kilocurie cobalt-60 source used in agriculture
Int. J. Appl. Radiat. Isot. 26 1975 573
- 76AND A.H. ANDEWEG
University of the Witwatersrand, Johannesburg
A fully automated sample changer for liquid and solid materials for use in neutron activation analysis. International symposium on analytical chemistry in the exploration, mining and processing of materials, Johannesburg, 23-27 August 1976, 1976 117
- 76ANN H.J. ANNEGARN
University of the Witwatersrand, Johannesburg
Low energy (d,p) reaction studies on ^9Be , ^{10}B , ^{11}B and ^{12}C . Ph.D. thesis. University of the Witwatersrand, 1976
- 76BAS1 J.K. BASSON, D. VAN AS
Determination of safe radioactive releases to the atmosphere from the Nuclear Power Site Duynefontein. International conference on Air Pollution, Pretoria, 26-29 April 1976
- 76BAS2 J.K. BASSON, D. VAN AS
Pre-operational investigation of safe radioactive releases from the Nuclear Power Station Site, Duynefontein European Nuclear Conference, Pretoria, 1975 Progress in Nuclear Energy 4 1976 65-75
- 76BAU F.C. BAUMGARTNER, L.W. DUGGAN, C.E. FEATHER, C. VAN ZYL
Anglo American Research Laboratories, Crown Mines
Experience in X-ray fluorescence determination of uranium and thorium in mine plant control and prospecting samples. International symposium on Analytical Chemistry in the exploration, mining and processing of materials, Johannesburg, 23-27 August 1976, 631.
- 76BRI R.J.N. BRITS, G.J. GREEFF
Atomic Energy Board, Pelindaba, Pretoria
The determination of Ga, La and Sm in the NIMROC standards by NAA Mikrochim. Acta 1 1977 105
- 76COE P.P. COETZEE, R. PRETORIUS, M. PEISACH
Southern Universities Nuclear Institute, Faure
Experimental criteria for light nuclide analysis by coincident measurement of complementary particles
Nucl. Instrum. Methods 131 1976 299
- 76COR B. CORNER
Atomic Energy Board, Pelindaba, Pretoria
Radiometric borehole-logging case histories from the Karoo and Damaran uranium provinces. Short course on uranium prospecting techniques, Pretoria, 20 August 1976, 1976, 4.1.
INIS-MF-3593
- 76DEJ A.S.M. DE JESUS
Atomic Energy Board, Pelindaba, Pretoria
Nuclear techniques in industry. Conference on nuclear technology, Durban, 25 November 1976, 1976, 2.1
INIS-MF-3448
- 76EDD B.T. EDDY, D.C.G. PEARTON, J.I.W. WATTERSON
National Institute for Metallurgy, Johannesburg
The determination of some impurities in pure zirconium metal by instrumental neutron activation analysis. International symposium on Analytical Chemistry in the exploration, mining and processing of materials, Johannesburg, 23-27 August 1976, 1976, 297
- 76ERA C.S. ERASMUS, M. TREDoux
University of the Witwatersrand, Johannesburg
Determination of the noble metals by radiochemical neutron activation analysis. International symposium on Analytical Chemistry in the exploration, mining and processing of materials, Johannesburg, 23-27 August 1976, 1976, 509
- 76JON K.W. JONES, H.J. ANNEGARN, J.P.F. SELLSCHOP
Department of Physics, University of the Witwatersrand, Johannesburg.
Charged particle analysis of fluorine-19 in tooth enamel. International Conference on Physics in Industry, Dublin, Ireland, 9 March 1976, 1976 561

PEL-285-4

- 76KAB E.J.D. KABLE
Down to earth with neutrons
Nucl. Act. 17 1977 13
- 76KED R.J. KEDDY, J.P.F. SELLSCHOP
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg.
Activation analysis techniques and the South African mining industry. International conference on Physics in Industry, Dublin, Ireland, 9 March 1976, 1976, 53
- 76KRU J. KRUGER, M. ANDREWS
Isotopes and Radiation Division, Atomic Energy Board, Pelindaba, Pretoria.
Measurement of the attachment coefficient of radon-220 decay products to monodispersed polystyrene aerosols
J. Aerosol Sci. 7 1976 21
- 76LOO W.P.V. LOO, H.W. FESQ
University of the Witwatersrand, Johannesburg
A radiochemical neutron activation method for the determination of the rare earth elements and barium in Kimberlite minerals and other geological samples. International Symposium on Analytical Chemistry in the exploration, mining and processing of materials, Johannesburg, 23-27 August 1976, 1976, 598
- 76PEA D.C.G. PEARTON
National Institute for Metallurgy, Johannesburg.
Rapid reduction of gamma-ray spectra using a desk-top programmable calculator. International Symposium on Analytical Chemistry in the exploration, mining and processing of materials, Johannesburg, 23-27 August 1976, 1976, 343
- 76RAS S.E. RASMUSSEN
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg.
A subdivision of the upper Witwatersrand system based on the statistical analysis of trace element data
NPRU-77/4, Aug 1976, ISBN: 0-85494-437-0, 45p.
- 76SEL J.P.F. SELLSCHOP
National Institute for Metallurgy, Johannesburg.
Nuclear probes in physical and geochemical studies of natural diamonds
NPRU-76/2, ND., 74p.
- 76SMI M.C.B. SMIT
Atomic Energy Board, Pelindaba, Pretoria
Frits - the prospectors' friend
Nucl. Act. 15 1976 12
- 76SNY G.C. SNYMAN, R.C. SHORT, J.K. BASSON
Airflow measurement on the ventilation system of Kinross Gold Mine, using radioactive krypton-85. International Mine Ventilation Congress, Johannesburg, 15-19 September 1975, 1976, 103-106.
- 76STE J. STEYN, S.M. BOTHA, J.C. VAN STADEN
National Physics Research Laboratory, Council for Scientific and Industrial Research, Pretoria.
The international comparison of radioactivity measurements on a solution of cesium-139
FIS-90, 1976, 21p.
- 76VON U. VON WIMMERSPERG, C.S. ERASMUS, M.J. RENAN, J.P.F. SELLSCHOP, J.I.W. WATTERSON
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg.
Coulomb barrier enhancement of sensitivity in the detection of trace elements, using charged particles. International Symposium on Analytical Chemistry in the exploration, mining and processing of materials, Johannesburg, 23-27 August 1976, 1976, 360
- 76WAT1 J.I.W. WATTERSON
University of the Witwatersrand, Johannesburg
Instrumental neutron activation analysis and the classification of granites from the Bushveld Igneous Complex.
Thesis, 1976
- 76WAT2 J.I.W. WATTERSON, J.P.F. SELLSCHOP
University of the Witwatersrand, Johannesburg
B.T. EDDY, D.C. PEARTON, T.W. STEELE
National Institute for Metallurgy, Johannesburg.
Neutron activation analysis in the mineral processing industry. International Symposium on Analytical Chemistry in the exploration, mining and processing of materials, Johannesburg, 23-27 August 1976, 1976, 350
- 76WAT3 J.I.W. WATTERSON, S.E. RASMUSSEN, B.S. ERASMUS, J.P.F. SELLSCHOP, D.M. HAWKINS
University of the Witwatersrand, Johannesburg
Multi-element neutron activation analysis and the recognition of geochemical patterns for mineral exploration. International Symposium on Analytical Chemistry in the exploration, mining and processing of materials, Johannesburg, 23-27 August 1976, 1976, 214
- 77AND A.H. ANDEWEG
University of the Witwatersrand, Johannesburg
A liquid-nitrogen monitor for lithium-drifted germanium detectors
NIM-1928, 1977, 5p.
- 77BIB D.M. BIBBY
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg.
The determination of zonally distributed impurities in diamond by instrumental neutron activation analysis
J. Radioanal. Chem. 41 1977 101

- 77DEJ1 A.S.M. DE JESUS
Isotopes and Radiation Division, Atomic Energy Board, Pelindaba, Pretoria
Applications of sealed radioisotopic sources. School on chemistry in nuclear technology, Johannesburg, 24–26 October 1977, 1977, 181
INIS-MF-4203
- 77DEJ2 A.S.M. DE JESUS
Isotopes and Radiation Division, Atomic Energy Board, Pelindaba, Pretoria
Energy-dispersive X-ray methods with radioisotopic source excitation. School on chemistry in nuclear technology, Johannesburg, 24–25 October 1977, 1977, 259
INIS-MF-4203
- 77ERA C.S. ERASMUS, J. SARGEANT, J.P.F. SELLSCHOP, J.I.W. WATTERSON
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg
Analysis of air and water pollutants in gold mines by thermal and epithermal neutron activation
Methods and standards for environmental measurement.
W.H. Kirchhoff (ed.). Gaithersburg, National Bureau of Standards Special Publication 464, Nov. 1977, 129–136
- 77GOO B. GOODWIN, L. DE VILLIERS, A.S.M. DE JESUS
Isotopes and Radiation Division, Atomic Energy Board, Pelindaba, Pretoria
Environmental radioactivity at the National Nuclear Research Centre, Pelindaba, 1977
PEL-262, 1978, ISBN: 0-86960-678-6, 18p
- 77PEA D.C.G. PEARTON, B.T. EDDY, J.I.W. WATTERSON
National Institute for Metallurgy, Johannesburg
The rapid reduction of gamma-ray spectra with a desk-top calculator
NIM-1873, 1977, ISBN: 0-86999-362-3, 11p
- 77PEI M. PEISACH
Southern Universities Nuclear Institute, Faure
Charged particle activation analysis. School on chemistry in nuclear technology, Johannesburg, 24–26 October 1977, 1977, 229
INIS-MF-4203
- 77PRE R. PRETORIUS, M. PEISACH
Southern Universities Nuclear Institute, Faure
Charged particle analysis of light elements by total energy coincident measurement of complementary particles
Nucl. Instrum. Methods 149 1977 69
- 77TRE P.A. TREASURE
Uranium from the dry country
Nucl. Act. 17 1977 10
- 77UKE E.A. UKEN, P. HAHN-WEINHEIMER, H. STAERK
Humboldt Stipendiate, NRSC, Pretoria
Distribution of selected trace elements in samples of sediment, suspension and water taken along the Tsar River, Bavaria
J. Radioanal. Chem. 37 1977 741
- 77UNI UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG, NUCLEAR PHYSICS RESEARCH UNIT
Progress report to the nuclear analysis subcommittee for nuclear technology and radiation for the period 1 January 1977 to 31 December 1977, nd, 98p
- 77VAN M. VAN DER WESTHUIZEN
Isotopes and Radiation Division, Atomic Energy Board, Pelindaba, Pretoria
Environmental applications of tracers. School on chemistry in nuclear technology, Johannesburg, 24–26 October 1977, 1977, 169
INIS-MF-4203
- 77WAT J.I.W. WATTERSON, J.P.F. SELLSCHOP
University of the Witwatersrand, Johannesburg
Instrumental neutron activation analysis and the characterization of granitic rocks
J. Radioanal. Chem. 38 1977 301
- 78ANN H.J. ANNEGARN
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg
Nuclear approaches in biological investigations. International conference on dynamical properties of heavy-ion reactions, Johannesburg, 1–3 August 1978, 1978
NPRU-79/7 ISBN: 0-85494-567-9, 112
- 78BLU F. BLUM
Stellenbosch University, Merensky Institute of Physics
A critical evaluation of quantitative and qualitative analysis by means of energy-dispersive X-ray measurement in a scanning electron microscope
Ph.D. thesis. Stellenbosch University, 1978
- 78BOT S.M. BOTHA, J. STEYN
National Physics Research Laboratory, Council for Scientific and Industrial Research, Pretoria
The measurement of dead time
FIS-159, 1978, 13p
- 78BOU G.J. BOULLE
Groote Schuur Hospital, Cape Town
M. PEISACH
Southern Universities Nuclear Institute, Faure
Trace element analysis of archaeological materials and the use of pattern recognition methods to establish identity. Fifth symposium on the recent development in activation analysis, 17–21 July 1978, Oxford, UK, 1978, Paper 4

PEL-285-6

- 78BR11** R.J.N. BRITS
Atomic Energy Board, Pelindaba, Pretoria
Calculation of analytical results from gamma-ray peak areas
Trans. Am. Nucl. Soc., Suppl. 28 1978 34
- 78BR12** R.J.N. BRITS
Atomic Energy Board, Pelindaba, Pretoria
The determination of uranium in groundwater by preconcentration of active charcoal and delayed neutron counting
Radiochem. Radioanal. Lett. 35 1978 313
- 78DEJ1** A.S.M. DE JESUS, B.L. GOODWIN
Isotopes and Radiation Division, Atomic Energy Board, Pelindaba, Pretoria
Measurement of liquid drop dynamics in a liquid medium by nuclear technique.
Int. Journal Appl. Rad. and Isot. 29 1978 645
- 78DEJ2** A.S.M. DE JESUS, G.W.J. VAN DER BERG
Isotopes and Radiation Division, Atomic Energy Board, Pelindaba, Pretoria
Determination of low-boron concentrations in various matrices with a neutron source
Radiochem. Radioanal. Lett. 36 1978 183
- 78ERA** C.S. ERASMUS, E. NOVAK, J.P.F. SELLSCHOP
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg
The determination of copper in native gold by radiochemical neutron activation analysis. 5. Symposium on the recent development in activation analysis, Oxford, UK, 17-21 July 1978, 1978, Paper 126
- 78FRI** E. FRIEDLAND
Department of Physics, Pretoria
Influence of straggling on the analysis of ion implantation profiles using backscattering or nuclear reactions
Nucl. Instrum. Methods 150 1978 301
- 78GIH1** D. GIHWALA, I.S. GILES, M. PEISACH
Southern Universities Nuclear Institute, Faure
Alpha-induced coulomb excitation for the determination of vanadium and molybdenum in steels
J. Radioanal. Chem. 47 1978 145
- 78GIH2** D. GIHWALA, I.S. GILES, M. PEISACH
Southern Universities Nuclear Institute, Faure
Determination of nitrogen in steels by alpha-induced prompt gamma-ray spectrometry
J. Radioanal. Chem. 46 1978 333
- 78GIL** I.S. GILES
Cape Town University, Cape Town
Elemental analysis by alpha-induced prompt gamma-ray spectrometry
Ph.D. thesis. Cape Town University, 1978
- 78HAA** F.J. HAASBROEK
National Physics Research Laboratory, Council for Scientific and Industrial Research, Pretoria
- 78HAR** R.J. HART
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg
Neutron activation analysis for noble metals in matte leach residues
NPRU-78/2, 1978, ISBN: 0-85494-493-1. 13p
- 78MAD** C.C.P. MADIBA
University of the Witwatersrand, Johannesburg
Elemental analysis by nuclear reactions in selected mineral assemblages
M.Sc. thesis. University of the Witwatersrand, 1978
- 78MAR** J.W. MARCHANT
Geological Survey, Department of Mines, Cape Town
Down to a sunless sea
Nucl. Act. 19 1978 14
- 78MEY** B.R. MEYER
Atomic Energy Board, Pelindaba, Pretoria
G.B. BOULLE
Groote Schuur Hospital, Cape Town
Pixies in the laboratory
Nucl. Act. 19 1978 23
- 78MIN1** D.W. MINGAY, W.D. JONKER, B.J. SMITH
Physics Division, Atomic Energy Board, Pelindaba, Pretoria
PIXE-PURC particle-induced X-ray emission pile-up rejection circuit
PEL-259 1978, ISBN: 0-86960-674-3, 15p
- 78MIN2** D.W. MINGAY, E. BARNARD
Physics Division, Atomic Energy Board, Pelindaba, Pretoria
Reduction of the bremsstrahlung background in the proton-induced X-ray emission analysis of insulating samples
Nucl. Instrum. Methods 157 1978 537
- 78OLI** C. OLIVIER
Stellenbosch University, Stellenbosch
M. PEISACH
Southern Universities Nuclear Institute, Faure
An attempt at solving the problem of prompt alpha spectrometry in a high flux of low-energy protons and its relevance in elemental analysis. 5. Symposium on the recent development in activation analysis, Oxford, UK, 17-21 July 1978, 1978, Paper 1
- 78REN** M.J. RENAN, B.D. DRENNAN, R.J. KEDDY, J.P.F. SELLSCHOP
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg
Oesophageal cancer in the Transkei: Multi-elemental investigation of plant material and water
NPRU-78/4, 1978, ISBN: 0-85494-495-8, 31p

- 78TUR1 J. TURKSTRA, V. DE VOS, F. BIDDLECOMBE, R. DOW
Department of Chemistry, University of Fort Hare, Alice
The characterization of the concentration levels of various trace elements in liver tissue of blesbok (*Damaliscus dorcas phillipsi*) and bontebok (*Damaliscus dorcas dorcas*), as determined by instrumental neutron activation analysis *Z. Tierphysiol., Tierernaehr. Futtermittekd.* 40 1978 149
- 78TUR2 J. TURKSTRA, P.J.L. BEUKES, R.J.N. BRITS, B.B. HAMBLETON-JONES
Chemistry Division, Atomic Energy Board, Pelindaba, Pretoria
Multi-element characterization of human hair by neutron activation analysis *S. Afr. J. Sci.* 74 1978 182
- 78WAT1 J.I.W. WATTERSON
National Institute for Metallurgy, Johannesburg
The instrumental neutron-activation analysis of granites from the Bushveld complex NIM-1917, 1978, ISBN: 0-86999-397-6, 76p
- 78WAT2 J.I.W. WATTERSON
National Institute for Metallurgy, Johannesburg
Nuclear probes in geological studies. International Conference on dynamical properties of heavy-ion reactions, Johannesburg, 1-3 August 1978, 1978, 88
- 79BAR J.M. BARTON
Bernard Price Institute of Geophysical Research, University of the Witwatersrand, Johannesburg
Crustal evolution clues *Nucl. Act.* 21 1979 16
- 79BOU1 G.J. BOULLE, M. PEISACH
Southern Universities Nuclear Institute, Faure
Archaeological significance of trace element analysis of South West African potsherds *S. Afr. J. Sci.* 75 1979 215
- 79BOU2 G.J. BOULLE
Groote Schuur Hospital, Cape Town
M. PEISACH
Southern Universities Nuclear Institute, Faure
N.S. DEMPSTER, H. DE V. HEESE
Institute of Child Health, University of Cape Town
Search for a possible correlation between geographical area of domicile and trace element composition of human blood serum as determined by PIXE
J. Radioanal. Chem. 52 1979 153
- 79BOU3 G.J. BOULLE
Groote Schuur Hospital, Cape Town
M. PEISACH
Southern Universities Nuclear Institute, Faure
Trace element analysis of archaeological materials and the use of pattern recognition methods to establish identity.
J. Radioanal. Chem. 50 1979 205
- 79BRI1 R.J.N. BRITS, W.J. DE WET
Chemistry Division, Atomic Energy Board, Pelindaba, Pretoria
Preparation of reference powders for neutron activation analysis
S. Afr. J. Chem. 32 1979 164
- 79BRI2 R.J.N. BRITS, E.A. HOLEMANS
Atomic Energy Board, Peindaba, Pretoria
Determination of uranium in urine by delayed-neutron counting
Health Phys. 36 1979 65
- 79CLE P. CLEATON-JONES
Dental Research Unit, University of the Witwatersrand, Johannesburg
D.H. RETIEF
Alabama University, Birmingham, USA
J. TURKSTRA
Fort Hare University, Alice
Baring the teeth
Nucl. Act. 21 1979 9
- 79COR B. CORNER, P.D. TOENS, D. VAN AS, C.M. VLEGGAR
Atomic Energy Board, Pelindaba, Pretoria
D.J. RICHARDS
Geological Survey, Department of Mines, Pretoria
The Pelindaba facility for calibrating radiometric field instruments
PEL-268, 1979, ISBN: 0-86960-689-1, 23p
- 79DRE B.D. DRENNAN, R.J. KEDDY, J.P.F. SELLSCHOP
University of the Witwatersrand, Johannesburg
Oesophageal cancer in the Transkei: multi-elemental investigation of plant material and water
Progress Report January 1979
NPRU-79/1, 1979, ISBN: 0-85494-554-7, 21p
- 79EDD B.T. EDDY, J.I.W. WATTERSON, C.S. ERASMUS
Analytical Chemistry Division, National Institute for Metallurgy, Randburg
The preparation of synthetic standards for use in instrumental neutron activation analysis
NIM-2015, 1979, 31p
- 79ERA C.S. ERASMUS, K. HOFFMANN, A.C. KENNEDY
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg
In vitro application of thermal and epithermal activation analysis to human arthritic and necrotic femoral heads

- Nuclear Activation Techniques in the Life Sciences. Proceedings of an International Symposium on Nuclear Activation Techniques in the Life Sciences, Vienna, 22-26 May, 1978, 1979, 419
- 79GIH D. GIHWALA, M. PEISACH
Southern Universities Nuclear Institute, Faure
The determination of manganese in steels by measuring alpha-induced prompt gamma rays: the importance of high resolution spectrometry
Radiochem. Radioanal. Lett. 40 1979 285
- 79GIL I.S. GILES, M. PEISACH
Southern Universities Nuclear Institute, Faure
A survey of the analytical significance of prompt gamma-rays induced by 5 MeV alpha particles
J. Radioanal. Chem. 50 1979 307
- 79JAC1 J.J. JACOBS, R.T. TOLMAY
Analytical Chemistry Division, National Institute for Metallurgy, Johannesburg
The determination of uranium in solids and solutions by X-ray-fluorescence spectrometry and a background-ratio method with a derived exponent
NIM-2025, 1979, ISBN: 0-86999-470-0, 10p
- 79JAC2 J.J. JACOBS
Analytical Chemistry Division, National Institute for Metallurgy, Johannesburg
The determination of uranium in pyrite samples
NIM-2026, 1979, ISBN: 0-86999-471-9, 11p.
- 79JOO J.H. JOOSTE, J.A. DE BRUYN
Department of Botany, Stellenbosch University, Stellenbosch
The dual mechanism of iron absorption in bean root and leaf tissues
J. S. Afr. Bot. 45 1979 243
- 79NAM T.L. NAM, R.J. KEDDY, M.B.E. SWEET, E.J.M. THONAR
University of the Witwatersrand, Johannesburg
The determination of fixed anionic groups in articular cartilage by instrumental neutron activation. Nuclear Activation Techniques in the Life Sciences, Proceedings of an International Symposium on Nuclear Activation Techniques in the Life Sciences, Vienna, 22-26 May, 1978, 1979, 205
- 79OLI C. OLIVIER, M. PEISACH
Southern Universities Nuclear Institute, Faure
An attempt at solving the problem of prompt alpha spectrometry in a high flux of low energy protons and its relevance to elemental analysis
J. Radioanal. Chem. 49 1979 265
- 79PRI L. PRINSLOC, B. GOODWIN, A.S.M. DE JESUS
Isotopes and Radiation Division, Atomic Energy Board, Pelindaba, Pretoria
Environmental radioactivity at the National Nuclear Research Centre, Pelindaba
Report for the year 1978/1979
PEL-270, 1979, ISBN: 0-86960-699-0, 14p
- 79REN1 M.J. RENAN
Southern Universities Nuclear Institute, Faure
The determination of elements not previously certified in international biological reference materials
Radiochem. Radioanal. Lett. 40 1979 87
- 79REN2 M.J. RENAN, B.D. DRENNAN, R.J. KEDDY, J.P.F. SELLSCHOP
University of the Witwatersrand, Johannesburg
Aesophageal cancer in the Transkei. Determination of element concentration in selected plant material by instrumental neutron activation analysis. Nuclear Activation Techniques in the Life Sciences. Proceedings of an International Symposium on Nuclear Activation Techniques in the Life Sciences, Vienna, 22-26 May 1978, 1979, 479
- 79REN3 M.J. RENAN
Southern Universities Nuclear Institute, Faure
High-bran diet scale
Nucl. Act. 21 1979 33
- 79RET D.H. RETIEF
Dental Research Unit, University of the Witwatersrand, Johannesburg
J. TURKSTRA
University of Fort Hare, Alice
P.E. CLEATON-JONES, F. BIDDLECOMBE
Atomic Energy Board, Pelindaba, Pretoria
The mineral composition of enamel from two South African population groups
J. Dent. Assoc. S. Afr. 34 1979 577
- 79SEL J.P.F. SELLSCHOP
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg
A gem carbonaceous
Nucl. Act. 21 1979 2
- 79SMI S.W. SMITH, G.C. SNYMAN, R.C. SHORT
Isotopes and Radiation Division, Atomic Energy Board, Pelindaba, Pretoria
Radioisotope method for the on-line determination of cyanide concentration in slurries.
Int. Jnl. Appl. Rad. Isot. 30 1979 718
- 79TUR J. TURKSTRA
Atomic Energy Board, Pelindaba, Pretoria
The multi-element analysis of teeth and other biological materials by instrumental neutron activation. Proceedings of the Conference on Analysis of Biological Materials, 1977, 1979, 49
- 79WAT J.I.W. WATTERSON, J.H. MALKIN, J.T. MNGADI, B. RAMJEE, J.P.F. SELLSCHOP
National Institute for Metallurgy, University of the Witwatersrand, Johannesburg
A computer-based system for absolute neutron activation analysis. Conference on computers in activation analysis and gamma-ray spectroscopy, Mayaguez, Puerto Rico, 30 April-4 May 1978, 1979, 238
In summary form in: Trans. Am. Nucl. Soc. Suppl. 28 1978 18

- AND1** A.H. ANDEWEG
National Institute for Metallurgy, Randburg
Automatic setting of the distance between sample and detector in gamma-ray spectroscopy
NIM-2068, 1980, 23p
- 80AND2** A.H. ANDEWEG, J.I.W. WATTERSON
National Institute for Metallurgy, University of the Witwatersrand, Johannesburg
A large capacity sample changer for fully automated gamma-ray spectroscopy
(a) IEEE Trans. Nucl. Sci. NS27 1980 728
(b) NIM-2085 ISBN: 0-86999-527-8, 1980 34p
- 80ARM** N.V. ARMSTRONG, A.A. VERBEEK
Department of Chemistry, University of Natal, Pietermaritzburg
Stable isotope dilution analysis for rare earths in NIMROC standards
S. Afr. J. Chem. 33 1980 30
- 80BAS** J.K. BASSON
Atomic Energy Board, Pelindaba, Pretoria
Airborne radiation hazards in uranium mining
J. Mine Vent. Soc. S. Afr. 33 1980 74-81
- 80BRA** P.J. BRANDT
Anglo American Research Laboratories, Crown Mines, Johannesburg
M.E.A. ROBERTSON
Scitec (Pty) Limited, Johannesburg
Beta-gamma radiometric determination of uranium. Colloquium on analytical chemistry of uranium in the exploration, mining and processing of minerals, Randburg, 12 September 1980.
Bull. S. Afr. Inst. Assayers Anal. No. 49, 1980, 2p
- 80EDD1** B.T. EDDY
Analytical Chemistry Division, National Institute for Metallurgy, Johannesburg
The determination of uranium by instrumental neutron-activation analysis. Colloquium on analytical chemistry of uranium in the exploration, mining and processing of minerals, Randburg, 12 September 1980
Bull. S. Afr. Inst. Assayers Anal. No. 49, 1980, 2p
- 80EDD2** B.T. EDDY, J.I.W. WATTERSON, C.S. ERASMUS
National Institute for Metallurgy, Johannesburg and the University of the Witwatersrand, Johannesburg
Preparation of synthetic standards for use in instrumental neutron activation analysis
Geostandards Newsletter 4(2) 1980 229
- 80ERA** C.S. ERASMUS, J.P.F. SELLSCHOP, D.K. HALL-BAUER, E. NOVAK
National Institute for Metallurgy, Johannesburg
An investigation of the impurities in native gold by neutron-activation analysis
NIM-2052, 1980, 20p
- 80FEA** C.E. FEATHER
Anglo American Research Laboratories, Crown Mines, Johannesburg
Recent developments in the X-ray fluorescence determination of uranium. Colloquium on analytical chemistry of uranium in the exploration, mining and processing of minerals, Randburg, 12 September 1980
Bull. S. Afr. Inst. Assayers Anal. No. 49, 1980, 1p
- 80GEL** S. GELDENHUIS
McLachland and Lazar (Pty.) Limited, Johannesburg
The fluorimetric determination of uranium. Colloquium on analytical chemistry of uranium in the exploration, mining and processing of minerals, Randburg, 12 September 1980
Bull. S. Afr. Inst. Assayers Anal. No. 49, 1980, 2p
- 80GIH1** D. GIHWALA, M. PEISACH
Southern Universities Nuclear Institute, Faure
Comparison of spectrometric techniques for the determination of minor components in steels by particle-induced prompt photon emission
S. Afr. J. Chem 33 1980 4
- 80GIH2** D. GIHWALA, M. PEISACH
Southern Universities Nuclear Institute, Faure
The determination of molybdenum and tungsten by high-resolution spectrometry of alpha-induced prompt photon emission
J. Radioanal. Chem. 55 1980 163
- 80GRA** P. GRAY, O. VAN REENEN, G.M. POTGIETER
Faculty of Medicine, University of the Orange Free State, Bloemfontein
Counting efficiency of some commercially available liquid scintillators compared
Clin. Chem. 26(13) 1980 1886-7
- 80HAM** B.B. HAMBLETON-JONES
Atomic Energy Board, Pelindaba, Pretoria
Analytical aspects in the geochemistry of uranium. Colloquium on analytical chemistry of uranium in the exploration, mining and processing of minerals, Randburg, 12 September 1980
Bull. S. Afr. Inst. Assayers Anal. No. 49, 1980 2p
- 80HAR** R.J. HART, J.S. STUCKLESS, H.J. WELKE
University of the Witwatersrand, Johannesburg
D.C. REID
Department of Chemistry, University of Cape Town, Cape Town
Comparison of three techniques for the determination of uranium and thorium in rocks
Chem. Geol. 29 1980 345
- 80JAC** J.J. JACOBS, A.M.E. BALAES
Analytical Chemistry Division, National Institute for Metallurgy, Johannesburg
The analysis, by a fusion procedure and X-ray-fluorescence spectrometry, of silicates and slags
NIM-2084, ISBN: 0 86999-526-X, 1980, 17

PEL-285-10

- 80KRU** P.J. KRUGER, J.I. FEATHER
Isotopes and Radiation Division, Atomic Energy Board, Pelindaba, Pretoria
In vivo measurement of uranium in the human chest under high background conditions
PEL-275, 1980, 13p
- 80MEY** B.R. MEYER
Stellenbosch University, Stellenbosch
Application of proton-induced X-ray emission to a multi-elemental study of bitter pit in apples
M.Sc. thesis, 1980, 127p
- 80NAM** T.L. NAM, R.J. KEDDY, M.B.E. SWEET, E.J.M. THONAR, J.I. WATTERSON
Orthopaedic Research Laboratories, University of the Witwatersrand, Johannesburg
Determination of trace element concentrations in articular cartilage by instrumental neutron activation analysis
Trace Element Analytical Chemistry in Medicine and Biology, Proceedings of the International Workshop, 1st, 1980, 351-364
- 80PRI** L. PRINSLOO, A.S.M. DE JESUS
Isotopes and Radiation Division, Atomic Energy Board, Pelindaba, Pretoria
Environmental radioactivity at the National Nuclear Research Centre, Pelindaba
Report for the year 1979,
PEL-273, ISBN: 0-86960-721-9, 1980, 14p
- 80REN1** M.J. RENAN, S.J. VAN RENSBURG
Southern Universities Nuclear Institute, Faure
Multi-elemental X-ray analysis of rat liver by proton excitation of thick samples in air
Anal. Lett. 13 1980 119
- 80REN2** M.J. RENAN
Southern Universities Nuclear Institute, Faure
Optimization of trace analysis by PIXE: angular dependence of the background continuum
X-ray Spectrom., XRS 9 1980 90
- 80SHA** C.J. SHARLAND, M.E.A. ROBERTSON
Scitec (Pty.) Limited, Sandton, Johannesburg
P.J. BRANDT
Anglo American Research Laboratories, Johannesburg
High-precision automated beta-gamma technique for uranium ore analysis. International symposium on uranium evaluation and mining techniques, Buenos Aires, Argentina, 1-4 October 1979, 1980, 309-319
IAEA-SM-239/42
- 80SMI1** M.C.B. SMIT
Atomic Energy Board, Pelindaba, Pretoria
The determination of uranium in geological material by delayed neutron counting. Colloquium on analytical chemistry of uranium in the exploration, mining and processing of minerals, Randburg, 12 September 1980
Bull. S. Afr. Inst. Assayers Anal. No. 49 1980 2p
- 80SMI2** H.J. SMITH, G.N. VAN WYK
Council for Scientific and Industrial Research, Pretoria
Effect of Cu⁺ ion implantation on crystalline orientation in polycrystalline Cu investigated by Kr penetration measurements
Radiat. Eff. 46 1980 149-156
- 80TOL** R.T. TOLMAY, J.J. JACOBS
Analytical Chemistry Division, National Institute for Metallurgy, Johannesburg
A rapid method for the determination of uranium in ores and carbonaceous materials by X-ray fluorescence spectrometry
NIM-2034, 1980, ISBN: 0-86999-498-0, 21p
- 80VLE** C.M. VLEGGAR, D. VAN AS, J.L. WATKINS, D.W. MINGAY
Atomic Energy Board, Pelindaba, Pretoria
R.B. WELLS, A.B. BRIGGS, C.W. LOUW
Air Pollution Research Group, Council for Scientific and Industrial Research, Pretoria
Trace elements in airborne particulates in South Africa
PEL-274, 1980, ISBN: 0-86960-722-7, 72p
- 80WAT** J.I.W. WATTERSON
National Institute for Metallurgy, Johannesburg
Analysing the process
Nucl. Act. 23 1980 2
- 81ANN1** H.J. ANNEGARN, A. JODAIKIN, P.E. CLEATON-JONES, J.P.F. SELLSCHOP, C.C.P. MADIBA, D. BIBBY
University of the Witwatersrand, Johannesburg
PIXE analysis of caries related trace elements in tooth enamel. 2. International conference on particle-induced X-ray emission and its analytical applications (PIXE-2), Lund, Sweden, 9-12 June 1980
Nucl. Instrum. Methods 181 1981 323
- 81ANN2** H.J. ANNEGARN, C.C.P. MADIBA, J.P.F. SELLSCHOP
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg
J.W. WINCHESTER, S. BAUMAN
Department of Oceanography, Florida State University, Tallahassee, USA
PIXE analysis of time-sequence streaker filters from Johannesburg. 2. International conference on particle-induced X-ray emission and its analytical applications (PIXE-2), Lund, Sweden, 9-12 June 1980
Nucl. Instrum. Methods 181 1981 435
- 81BAR** D. BARKER
Bateman Instrumentation, South Africa
On-stream analysis of coal by prompt neutron activation analysis.
Pulse, September 1981 96-97

- 81BRI R.J.N. BRITS, L. PRINSLOO, A.S.M. DE JESUS
Isotopes and Radiation Division, Atomic Energy Board, Pelindaba, Pretoria
Environmental radioactivity at the National Nuclear Research Centre, Pelindaba
Report for the year 1980
PEL-276, 1981, ISBN: 0-86960-728-6, 15p
- 81CLE P. CLEATON-JONES, A. JODAIKIN, H.J. ANNE-GARN, J.P.F. SELLSCHOP, C.C.P. MADIBA
University of the Witwatersrand, Johannesburg
Trace-element concentrations in various areas of enamel determined by particle-induced X-ray emission (PIXE) analysis
Journal of Dental Research 60 1981 1269-1269
- 81DEJ1 A.S.M. DE JESUS
Atomic Energy Board, Pelindaba, Pretoria
Radiation detectors and counting instrumentation. Short course on the use of radioisotopes in agriculture, Pretoria, 22-24 April 1981, 1981, 5.1
- 81DEJ2 A.S.M. DE JESUS
Atomic Energy Board, Pelindaba, Pretoria
Radioisotopes in non-destructive analysis
FWP J 21(12) 1981 7
- 81DEM C.M. DEMANET
Council for Scientific and Industrial Research, Pretoria. National Chemical Research Laboratory
Application of X-ray photoelectron spectroscopy in fundamental research.
S. Afr. J. Sci. 77 1981 249
- 81DER T.E. DERRY, J.P.F. SELLSCHOP
University of the Witwatersrand, Johannesburg
Ion implantation of carbon in diamond. 5. International conference on ion beam analysis, Sydney, Australia, 16-20 February, 1981
Nucl. Instrum. Methods Phys. Res. 191(1-3) 1981 23-26
- 81HAA F.J. HAASBROEK
National Physical Research Laboratory, Council for Scientific and Industrial Research, Pretoria
F.W.E. STRELOW, T.N. VAN DER WALT
National Chemical Research Laboratory, Council for Scientific and Industrial Research, Pretoria
Separation of carrier-free rhodium isotopes from ruthenium cyclotron targets by the extraction of nitrosylruthenium from hydrochloric acid solution
S. Afr. J. Chem. 34 1981 50
- 81HOR S.M. HORSZOWSKI, P.G. LURIE
De Beers Industrial Diamond Division (Pty.) Limited, Johannesburg
Detection of particles containing predominantly low atomic number nuclei
Patent (UK) 2 056 056 1981 4p
- 81HUI H. HUISMANS
Department of Agriculture and Fisheries, Pretoria
Applications of isotopes in zoological studies.
Radioisotopes and the study of micro-organisms. Short course on the use of radioisotopes in agriculture, Pretoria, 22-24 April 1981, 1981, 13.1
- 81JON1 D.T.L. JONES
Karl Bremer Hospital, Bellville. National Accelerator Centre
The neutron sensitivity of a GM counter between 0.5 and 8 MeV
Comm. Eur. Communities 2 1981 409-419
- 81JON2 D.T.L. JONES, C.M. BARTLE, R.W. MCMURRAY, F.D. BROOKS
Karl Bremer Hospital, Bellville. National Accelerator Centre
An associated particle neutron source for dosimetry applications
Comm. Eur. Communities 1 1981 465-477
- 81JON3 D.T.L. JONES, F.D. BROOKS
Karl Bremer Hospital, Bellville. National Accelerator Centre
A new type of recoil spectrometer for neutron energy spectra measurements.
Comm. Eur. Communities 1 1981 479-480
- 81KOT W.A.G. KOTZÉ
Fruit and Fruit Technology Research Institute, Stellenbosch
Application of radioisotopes in soil studies. Short course on the use of radioisotopes in agriculture, Pretoria, 22-24 April 1981, 1981, 10.1
- 81KRU J. KRUGER, P.J. KRUGER, A.H. LEUSCHNER
Isotopes and Radiation Division, Atomic Energy Board, Pelindaba, Pretoria
A comparison of the methodologies of intake measurement and bioassay for assessing exposure to personnel in uranium milling operations
Radiat. Hazards. Min. 1981 597-602
- 81MAR M.J. MARTINSON
University of the Witwatersrand, Johannesburg
Department of Mining Engineering
Strategies for measuring ionizing radiation in mine atmospheres
Health Physics, 40 1981 139
- 81MEY1 B.R. MEYER
Atomic Energy Board, Pelindaba, Pretoria
Trace element analysis. Neutron activation, PIXE and X-ray fluorimetry. Short course on the use of radioisotopes in agriculture, Pretoria, 22-24 April 1981, 1981, 9. 1-9. 19
INIS-MF-6593
- 81MEY2 B.R. MEYER, C.A.R. BAIN, A.S.M. DE JESUS, D. STEPHENSON
Atomic Energy Board Isotope Unit, Southern Universities Nuclear Institute, Faure
Radiotracer evaluation of groundwater dispersion in a multilayered aquifer
J. of Hydrology. 50 1981 259

PEL-285-12

- 81MIN1** D.W. MINGAY, E. STADLER
Atomic Energy Board, Pelindaba, Pretoria.
Physics Division
The effect of elastically scattered protons on the energy resolution of X-ray detectors in PIXE measurements
PEL-277, 1981, ISBN: 0-86960-729-4, 13p
- 81MIN2** D.W. MINGAY, C.M. VLEGGAR, J.L. WATKINS
Atomic Energy Board, Pelindaba, Pretoria
The measurement of large-volume air-particulate samples by PIXE analysis. 2. International conference on particle-induced X-ray emission and its analytical applications (PIXE-2), Lund, Sweden, 9-12 June 1980
Nucl. Instrum. Methods. 181 1981 487-492
- 81MON** P. MONY, M. PEISACH
Southern Universities Nuclear Institute, Faure
C. OLIVIER
Stellenbosch University, Stellenbosch
Prompt nuclear analysis in thick samples with charged particles: the validity of Bragg's law for range correction. Workshop on activation analysis with short-lived nuclides, Vienna, Austria 4-8 February 1980
J. Radioanal. Chem. 61 1981 131-145
- 81NAM** T.L. NAM
University of the Witwatersrand, Johannesburg
Instrumental neutron activation analysis of immature articular cartilage
M. Sc. thesis. University of the Witwatersrand, 1981 271p
- 81NOR** C.E. NORDEN
Atomic Energy Board, Pelindaba, Pretoria
Modelling and tracer studies of atmospheric dispersion and deposition in regions of complex topography
Ph. D. thesis 1981 317p
- 81PE11** M. PEISACH
Southern Universities Nuclear Institute, Faure
Prompt nuclear analysis. Workshop on activation analysis with short-lived nuclides, Vienna, Austria, 4-8 February 1980
J. Radioanal. Chem. 61 1981 243-271
- 81PE12** M. PEISACH
Southern Universities Nuclear Institute, Faure
Prompt techniques. Chapter 3. Section 6. Non-destructive activation analysis. With nuclear reactors and radioactive neutron sources. Amiel, S. (ed.)
Studies in Analytical Chemistry, v.3, ISBN: 0-444-41942-X, 1981, 93
- 81PE13** M. PEISACH
Southern Universities Nuclear Institute, Faure
Specific counting techniques. Chapter 3. Section 5. Nondestructive activation analysis. With nuclear reactors and radioactive neutron sources. Amiel, S. (ed.)
Studies in Analytical Chemistry, v.3, ISBN: 0-444-41942-X, 1981, 71
- 81PE14** M. PEISACH, D. GIHWALA
Southern Universities Nuclear Institute, Faure
The determination of minor elements in steels by proton-induced prompt gamma-ray spectrometry. Workshop on activation analysis with short-lived nuclides, Vienna, Austria, 4-8 February 1980
J. Radioanal. Chem. 61 1981 37
- 81PIL** A.E. PILLAY, M. PEISACH
Southern Universities Nuclear Institute, Faure
Human hair analysis by PIXE: pattern recognition of trace element composition
J. Radioanal. Chem. 63 1981 85
- 81RAS** H.A. RAS
Stellenbosch University, Stellenbosch
Simultaneous determination of boron-10 and boron-11 under proton bombardment
M.Sc. thesis 1981 89p
- 81REN** M.J. RENAN
Southern Universities Nuclear Institute, Faure
C.F. ALBRECHT
Stellenbosch University, Stellenbosch, Department of Pharmacology
D.T.L. JONES
Karl Bremer Hospital, Bellville. National Accelerator Centre
Multi-elemental X-ray analysis of normal and malignant mammalian tissue by proton excitation of thick samples in air. 2. International conference on particle-induced X-ray emission and its analytical applications (PIXE-2), Lund, Sweden, 9-12 June 1980
Nucl. Instrum. Methods 181 1981 297
- 81SPO** B. SPOELSTRA
University of Zululand. Department of Physics
J.P.F. SELLSCHOP, H.J. ANNEGARN, M.J. RENAN
University of the Witwatersrand, Johannesburg, Nuclear Physics Research Unit
Whole blood analysis of kwashiorkor cases by PIXE. 2. International conference on particle-induced X-ray emission and its analytical applications (PIXE-2), Lund, Sweden, 9-12 June 1980
Nucl. Instrum. Methods 181 1981 305
- 81STA** M.F. STADLER
J.C.I. Minerals Processing Research Laboratory
Use of the HP85 minicomputer in X-ray fluorescence analysis
Pulse, September 1981
- 81SWA** R. SWANEPOEL, P.T. WEDEPOHL
Rand Afrikaans University, Johannesburg
Carrier scattering by defect clusters in neutron irradiated silicon
Radiat. Eff 55 1981 43-47

- 81VAN1 D. VAN AS
Isotopes and Radiation Division, Atomic Energy Board, Pelindaba, Pretoria
Consideration of the overall impact of an emission when setting standards for air pollution control
Clean Air J. 5 1981 37
- 81VAN2 D. VAN AS
Isotopes and Radiation Division, Atomic Energy Board, Pelindaba, Pretoria
Industrial and research applications of radioisotopes and radiation sources. Symposium on isotope production and applications, Pretoria, 12 March 1981, 1981, 30
- 81VAN3 J. VAN DER WALT
Department of Agriculture and Fisheries, Pretoria
Applications of isotopes in zoological studies. Metabolic studies in domestic animals. Short course on the use of radioisotopes in agriculture, Pretoria, 22-24 April 1981, 1981, 14.1
- 81VAN4 M. VAN DER WESTHUIZEN
Atomic Energy Board, Pelindaba, Pretoria
The use of radioisotopes as tracers in soil studies. Short course on the use of radioisotopes in agriculture, Pretoria, 22-24 April 1981, 1981, 11.1
- 81VAN5 M. VAN DER WESTHUIZEN, K.L. BRISTOW, D.J. VAN DER BANK
Atomic Energy Board, Pelindaba, Pretoria
G.R. NAUDE
Pretoria University, Pretoria. Department of Plant Production Evaluation of a gamma-attenuation soil water meter and a neutron-scattering meter for measuring topsoil water content
Agrochemophysics 13 1981 25
- 82ANO ANON
Coal nuclear analysis will have a big impact
Eng. Week. 4(19) 1982 3
- 82BAL A.M.C. BALAES, J.J. JACOBS, E. FLYNN
Council for Mineral Technology, Randburg
The use of X-ray fluorescence spectrometry in the determination of uranium, cobalt, and sulphur in materials from mine dumps.
MINTEK-M-40, 1982, ISBN: 0-86999 583 9, 20p
- 82BRI R.J.N. BRITS, G.S.H. VAN DER WESTHUIZEN
Dept. of Isotopes and Radiation, Nuclear Development Corporation of South Africa
Environmental radioactivity at the National Nuclear Research Centre, Pelindaba. Report for the year 1981
PEL-281, 1982, ISBN: 0-86960-740-5, 15p
- 82GIH1 D. GIHWALA
Cape Town University, Cape Town
Analytical application of proton-induced prompt photon spectrometry
Ph.D. thesis 1982 364p
- 82GIH2 D. GIHWALA
Cape Town University, Cape Town
M. PEISACH
Southern Universities Nuclear Institute, Faure
Proton-induced prompt gamma-ray spectrometry: a survey of its analytical significance and some applications. 1981 International conference on modern trends in activation analysis, Toronto, Canada, 15-19 June 1981
J. Radioanal. Chem. 70(1-2) 1982 287-309
- 82GIH3 D. GIHWALA, C. OLIVIER, M. PEISACH, C.A. PINEDA
Southern Universities Nuclear Institute, Faure
The determination of chromium in steels by PIXE-induced XRF(X-ray fluorescence analysis)
J. Trace Microprobe Tech. 1(2) 1982 199-211
- 82GIH4 D. GIHWALA, M. PEISACH
Southern Universities Nuclear Institute, Faure
The determination of manganese in steels using proton-induced prompt photon emission. 5. Symposium on X- and gamma-ray sources and applications, Ann Arbor, MI, USA
Nucl. Instrum. Methods Phys. Res. 193 1982 371
- 82GIH5 D. GIHWALA, M. PEISACH
Southern Universities Nuclear Institute, Faure
Proton-induced prompt gamma-rays from vanadium and their use in vanadium determination
Anal. Chim. Acta. 136 1982 311-319
- 82HAN R.G. HANSEN, E.J. KING, T.W. STEELE
Analytical Chemistry Division, Council for Mineral Technology, Randburg
The preparation and certification of ten uranium reference materials
MINTEK-M-16, 1982, ISBN: 0 86999 569 3, 40p
- 82HAR R.J. HART
Atomic Energy Board, Pelindaba, Pretoria
R. LEAHY, R.M. FALCON
Nuclear Physics Research Unit
University of the Witwatersrand, Johannesburg
Geochemical investigation of the Witbank coalfield using instrumental neutron activation analysis. 1981 International conference on modern trends in activation analysis pt. 3, Toronto, Canada, 15-19 June 1981
J. Radioanal. Chem. 17(1-2) 1982, 285-297
- 82JAC L. JACOBSON, M. PEISACH
Southern Universities Nuclear Institute, Faure
Prehistory's clay footsteps
Nucl. Act. 27 July 1982 8-12
- 82JON D.T.L. JONES, C.M. BARTLE, J.H. HOUGH, W.R. MCMURRAY
Karl Bremer Hospital, Bellville. National Accelerator Centre
Absolute measurement of the neutron sensitivity of a ZP1320 Geiger-Mueller counter using the associated-particle technique
Health Physics 43(5) 1982 715-718

- 82KID D.G. KIDD, N.P.G. WYATT
RT2 Ore Sorters Ltd.
Radiometric sorting of ore. 12. Congress of the Council of Mining and Metallurgical Institutions, Johannesburg, 3-7 May 1982, v.2 1982, ISBN: 0-620-06174-X, 645, 651
- 82MEY B.R. MEYER, M. PEISACH, W.A.G. KOTZE
Southern Universities Nuclear Institute, Faure
Elemental study by PIXE, of nutrient elements in apples during their growth period. 5. Symposium on X-ray and gamma-ray sources and applications, Ann Arbor, MI, USA, 10-12 June 1981
Nucl. Instrum. Methods Phys. Res. 193 1982 331
- 82OLI G. OLIVIER, H.A. RAS
Stellenbosch University, Stellenbosch
M. PEISACH
Southern Universities Nuclear Institute, Faure
Simultaneous determination of boron-10 and boron-11 under proton bombardment. 1981 International conference on modern trends in activation analysis, Toronto, Canada, 15-19 June 1981
J. Radioanal. Chem. 70(1-2) 1982 311-327
- 82PEI1 M. PEISACH
Southern Universities Nuclear Institute, Faure
The radioanalytical bibliography of South Africa (1936-1977)
J. Radioanal. Chem. 73(1) 1982 101-146
- 82PEI2 M. PEISACH
Southern Universities Nuclear Institute, Faure
L. JACOBSEN
The State Museum, Windhoek
G.J. BOULLE, D. GIHWALA, L.G. UNDERHILL
Cape Town University, Cape Town
Multivariate analysis of trace elements determined in archaeological materials and its use for characterisation. International conference on modern trends in activation analysis, Toronto, Canada, 15-19 June 1981
J. Radioanal. Chem. 69(1-2) 1982 47
- 82PEI3 M. PEISACH, L. JACOBSON, G.J. BOULLE, D. GIHWALA, L.G. UNDERHILL
Southern Universities Nuclear Institute, Faure
PIXE analysis of archaeological material and the use of multivariate analysis for characterisation. 5. Symposium on X- and gamma-ray sources and applications, Ann Arbor, MI, USA, 10-12 June 1981
Nucl. Instrum. Methods Phys. Res. 193 1982 337
- 82REI D.L. REID
Dept. of Geochemistry, Cape Town University, Cape Town
Age relationship within the Vioolsdrif batholith, lower Orange River region. A two-stage emplacement history and the extent of Kibaran overprinting.
Trans. Geol. Soc. S. Afr. 85(2) 1982 105-110
- 82TRE M. TREDOUX, J.P.F. SELLSCHOP
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg
J.I.W. WATTERSON, C.S. ERASMUS
National Institute for Metallurgy, Randburg
A versatile charged particle activation technique for the analysis of the noble metals. 1981 International conference on modern trends in activation analysis, Toronto, Canada, 15-19 June 1981
J. Radioanal. Chem. 70(12) 1982 371-386
- 82WAT1 J.I.W. WATTERSON, A.H. ANDEWEG, J. RAMAHLO
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg
Isotope source neutron activation for the accurate analysis of kilogram samples of ores and rocks. 1981 International conference on modern trends in activation analysis Pt. 3, Toronto, Canada, 15-19 June 1981
J. Radioanal. Chem. 71(1-2) 1982 365-375
- 82WAT2 J.I.W. WATTERSON, J.T. MNGADI, J.P.F. SELLSCHOP
Nuclear Physics Research Unit, University of the Witwatersrand, Johannesburg
The analysis of microscopic mineral grains by absolute (parametric) neutron activation. 1981 International conference on modern trends in activation analysis Pt. 3, Toronto, Canada, 15-19 June 1981
J. Radioanal. Chem. 71(1-2) 1982 377-399
- 82WAT3 J.I.W. WATTERSON, J. RAMAHLO, J.P.F. SELLSCHOP
University of the Witwatersrand, Johannesburg
Accurate isotopic source neutron-activation analysis of large samples of ore
Transactions of the American Nuclear Society 43 1982 259

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