

CONTENTS

MONITORING OF EXTERNAL EXPOSURE (Sessions I—III)

Invited Paper	
The purpose of radiation protection monitoring (IAEA-SM-229/139)	3
<i>K.Z. Morgan</i>	
Discussion	15
Personnel dosimetry methods introduced in the Czechoslovak national laboratories (IAEA-SM-229/68)	21
<i>J. Trousil, J. Singer, L. Kókta, Z. Prouza</i>	
Discussion	38
Etude et réalisation d'un lecteur de verres dosimètres (IAEA-SM-229/86)	41
<i>J. Barthe, D. Blanc, J. Lescrainier, G. Portal</i>	
Discussion	53
Dispositif nouveau de détection de rayonnements ionisants (IAEA-SM-229/136)	55
<i>D. Périno, J. Lewiner, G. Dreyfus</i>	
Discussion	61
A new type of personal dose meter (IAEA-SM-229/37)	63
<i>K.R. Ennow</i>	
Discussion	74
Beta dosimetry with surface-barrier detectors (IAEA-SM-229/39)	77
<i>M. Heinzelmann, H. Schüren</i>	
Discussion	85
The development of sensitized, ultra-thin dose meters for skin-dose assessment (IAEA-SM-229/24)	87
<i>M.W. Charles, Z.U. Khan</i>	
Discussion	101
Dosimetry of mixed beta and gamma radiation in work areas (IAEA-SM-229/57)	103
<i>F. Hajnal, J.E. McLaughlin</i>	
Discussion	114
Прибор для измерения индекса эквивалентной дозы смешанного излучения (IAEA-SM-229/127)	117
<i>М. Зельчинский, С. Марьянская</i>	
(Device for determining the dose-equivalent index of mixed radiations: M. Zielczyński, S. Marjanska)	
Discussion	127

Ensemble débitmètre-dosimètre d'intervention (E.D.D.I.) (IAEA-SM-229/82)	129
<i>J. Bouet, M. Dieval, R. Prigent, R. Sajaroff</i>	
Discussion	141
Czechoslovak nuclear accident dosimetry system: Methods and organization (IAEA-SM-229/117)	143
<i>F. Spurný, K. Turek, Z. Prouza, I. Bučina, P. Galán, A. Hrabovcová, D. Nikoděnová, J. Kubečková, H. Solnická, J. Singer, J. Trousil</i>	
Discussion	152
Blood-sodium measurements for nuclear accident dosimetry (IAEA-SM-229/49)	153
<i>Ž. Ubović, I. Mirić</i>	
Comparison of neutron personnel monitors: preliminary results of a European intercomparison programme (IAEA-SM-229/46)	165
<i>H. Schraube, G. Burger, H. Seguin</i>	
Discussion	181
Utilisation de chambres à fission de grande sensibilité pour la spectro- métrie et la dosimétrie des neutrons (IAEA-SM-229/84)	183
<i>M. Mourgues</i>	
Discussion	194
A neutron dosimetry system for use in processing plants (IAEA-SM-229/29)	197
<i>J.A.B. Gibson</i>	
Discussion	205
Advances in albedo neutron dosimetry (IAEA-SM-229/05)	207
<i>E. Piesch, B. Burgkhardt</i>	
Discussion	228
Measuring neutron dose and quality factors with tissue-equivalent proportional counters (IAEA-SM-229/52)	231
<i>L.W. Brackenbush, G.W.R. Endres, L.G. Faust</i>	
Discussion	239
Studies on the characteristics of nuclear track spark counting for neutron monitoring (IAEA-SM-229/50)	241
<i>H. Kawai, T. Koga, H. Morishima, T. Niwa, Y. Nishiwaki</i>	
Discussion	252
A nuclear track detector system for personal neutron monitoring around high-energy accelerators (IAEA-SM-229/35)	253
<i>J. Dutrançois, M. Höfert, J.W.N. Tuyn</i>	
Discussion	261

A contribution to neutron dosimetry at the synchrocyclotron at the Joint Institute for Nuclear Research, Dubna (IAEA-SM-229/106)	263
<i>M. Fülöp, K. Turek, G. Somogyi</i>	
Discussion	275

CONTAMINATION MONITORING (Sessions IV–VI)

Amélioration, par l'emploi d'un centralisateur, de la surveillance de la contamination de l'air des locaux de travail par le tritium (IAEA-SM-229/75)	281
<i>H. de Kerviler</i>	
Discussion	292
Application of liquid scintillation techniques to the assessment of low-level radioactivity (IAEA-SM-229/115)	295
<i>M. Tschurlovits</i>	
Discussion	301
Evaluation of a radioactive aerosol surveillance system (IAEA-SM-229/62)	303
<i>R.C. Squires, R.G. Stafford, R.J. Beckman, M.I. Tillery, P.O. Romero</i>	
Discussion	313
Recent developments in the detailed investigation of radioactive particulate contamination (IAEA-SM-229/25)	315
<i>P.J. Darley, B.J. Macfarlane</i>	
Discussion	327
Air monitoring systems for alpha activities and for nuclide-specific noble gas measurements (IAEA-SM-229/109)	329
<i>S. Müller, R. Kankowsky</i>	
Discussion	342
Monitoring of transuranic elements in air in a nuclear reprocessing plant (IAEA-SM-229/30)	345
<i>J.A.B. Gibson, M. Marshall, D.C. Stevens, D.J. Ryden</i>	
Discussion	353
Advances in alpha air monitoring instrumentation (IAEA-SM-229/66)	357
<i>A.M. Valentine</i>	
Discussion	365
Multielement alpha spectrometry: A new method for monitoring individuals and the working environment for actinide contamination (IAEA-SM-229/96)	367
<i>E. Holm, R.B.R. Persson</i>	
Discussion	376

A low-cost, high-reliability, alpha, beta, gamma hand and shoe monitor using multiple-chamber, fast-response, air ionization probes (IAEA-SM-229/105)	377
<i>R.W. Fergus, M.J. Robinet</i>	
Discussion	387
Expérience tirée de l'utilisation des appareils de prélèvements individuels (IAEA-SM-229/79)	389
<i>M.-C. Tamas</i>	
Discussion	397
Methods of measuring radon and radon daughter products in underground and free-atmosphere air (IAEA-SM-229/22)	401
<i>D. Herrmann, W. Ullmann, C. Feddersen, R. Friemert, J. Schwedt</i>	
Discussion	411
An instrument for the measurement of long-term average radon levels (IAEA-SM-229/100)	413 ✓
<i>G. Cowper, M.R. Davenport</i>	
Discussion	421
Modified double-filter system for measuring radon/thoron in the environment and in exhaled breath (IAEA-SM-229/31)	423
<i>P. Kotrappa, S.D. Soman, Y.S. Mayya</i>	
Discussion	433
Appareil individuel pour la dosimétrie des descendants du radon (IAEA-SM-229/90)	435
<i>P. Duport, A.-M. Chapuis, J. Pradel</i>	
Discussion	443
A system of high-purity germanium detectors for the detection and measurement of inhaled radionuclides (IAEA-SM-229/54)	445
<i>R.B. Falk, W.H. Tyree, C.B. Wood, C.R. Lagerquist</i>	
Discussion	456
Large-area gas-scintillation proportional counters for in-vivo measurement of plutonium and americium (IAEA-SM-229/59)	459
<i>H.E. Palmer, D.F. Anderson</i>	
Advances in human internal radiation counting at Los Alamos: Multiple simultaneous in-vivo measurements (IAEA-SM-229/65)	469
<i>C.J. Umbarger, L. West</i>	
Discussion	476
Internal contamination monitoring in the German Democratic Republic: Report on the experience of twelve years (IAEA-SM-229/21)	479
<i>K.-F. Poulheim, D. Arndt, E. Klucke, V. Lössner, R. Scheler, W. Schlüter</i>	
Discussion	490

A tissue-equivalent torso phantom for intercalibration of in-vivo, transuranic-nuclide counting facilities (IAEA-SM-229/56)	493
<i>R.V. Griffith, P.N. Dean, A.L. Anderson, J.C. Fisher</i>	
Discussion	503
New developments in ultrasonic imaging of the chest and other body organs (IAEA-SM-229/53)	505
<i>G.W. Campbell, A.L. Anderson</i>	
Discussion	515

RADIATION MONITORING PROGRAMMES (Session VII)

Radiation monitoring programme in a university hot laboratory (IAEA-SM-229/03)	519
<i>M. Tillander, O.J. Heinonen</i>	
Discussion	527
Radiation protection monitoring at the JOYO experimental fast reactor (IAEA-SM-229/07)	529
<i>S. Ouchi, K. Endo, T. Susaki, Y. Kurokawa</i>	
Discussion	538
A statistical methodology for radiological surveying (IAEA-SM-229/103) ...	541
<i>R.W. Leggett, H.W. Dickson, F.F. Haywood</i>	
Discussion	553
Design and implementation of an integrated radiochemical laboratory for radiological environmental analysis (IAEA-SM-229/123)	555
<i>G. Medrano</i>	
Discussion	573
Compliance of environmental thermoluminescent dosimetry with recommendations, and data interpretation (IAEA-SM-229/45)	575
<i>D.F. Regulla, G. Drexler, R. Kramer</i>	
Discussion	591
✓ Radiation monitoring programme for the first nuclear power plant in Thailand (IAEA-SM-229/43)	593
<i>Chanika Haemapun</i>	
✓ Radiation protection monitoring in tropical, developing countries (IAEA-SM-229/107)	601
<i>Klaus Becker, G. Drexler</i>	
Discussion	609

CALIBRATION AND USE OF COMPUTERS (Sessions VIII, IX)

Normalisation des méthodes de production de rayonnements de référence à l'ISO et à la CCE pour l'étalonnage des dosimètres et débitmètres de radioprotection (IAEA-SM-229/83)	615
<i>G. Portal</i>	
Discussion	624
Standard neutron fields for the calibration of neutron monitors at the Physikalisch-Technische Bundesanstalt (PTB) (IAEA-SM-229/12)	625
<i>W.G. Alberts, M. Cosack, J. Dietze, R. Jahr, H. Kluge, K. Knauf, H. Lesiecki, M. Matzke, H.-J. Schuster, S. Wagner, H.W. Zill</i>	
Discussion	636
Calibration of dose meters used for radiation protection in the European Community (IAEA-SM-229/38)	639
<i>G. Portal, H. Seguin, S. Wagner</i>	
Calibration of personnel neutron dose meters for use in different neutron fields (IAEA-SM-229/23)	649
<i>B. Dörschel, V. Schuricht</i>	
Discussion	659
Relationships between calibration and field measurements with radiation protection instruments (IAEA-SM-229/16)	661
<i>W.J. Iles, D.F. White</i>	
Discussion	668
The new SI units — problems of conversion (IAEA-SM-229/27)	671
<i>J.E. Burns</i>	
Discussion	683
Centralized TLD service and record keeping in Canada (IAEA-SM-229/138)	689
<i>D. Grogan, J.P. Ashmore, R.P. Bradley</i>	
Discussion	705
Computerized operation of a dosimetric service (IAEA-SM-229/129)	707
<i>C. Ori, A. Cavallini</i>	
Discussion	721
Use of a mini-computer in a data-processing system for personnel dosimetry (IAEA-SM-229/144)	723
<i>C. Wernli</i>	
Discussion	728
Management of an automatic dosimetry and dose record keeping service (IAEA-SM-229/17)	729
<i>E. Greenslade</i>	
Discussion	741

Computer analysis of the annual dose distribution for persons in isotope diagnostics and nuclear therapy (IAEA-SM-229/135)	745
<i>I. Bojtor, L.B. Sztanyik</i>	
Discussion	755

SYNOPSIS OF THE SYMPOSIUM

A brief synopsis of the Symposium (IAEA-SM-229/140)	759
<i>G. Cowper</i>	
Chairmen of Sessions	763
Secretariat of the Symposium	764
List of Participants	765
Author Index	785
Pre-print Symbol Index	788