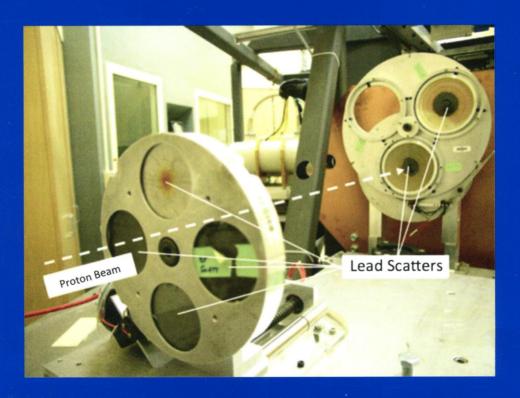
VOL. 107, NO. 5, NOVEMBER 2014

# HEALTH PHYSICS

THE RADIATION SAFETY JOURNAL





### **HEALTH PHYSICS**

## The Radiation Safety Journal

November 2014

Volume 107

Number 5

ISSN 0017-9078

#### **CONTENTS**

PAPERS		Measurement of Radiation Exposure in Relatives of Thyroid Cancer Patients Treated with <sup>131</sup> I	
Quantification of RF-exposure of the Fetus Using Anatomical CAD-Models in Three Different Gestational Stages Eugenia Cabot, Andreas Christ, Barbara Bühlmann, Marcel Zefferer, Nicolas Chavannes, Jurriaan F. Bakker, Gerard C. van Rhoon,	1	Y.T. Ramírez-Garzón, O. Ávila, L.A. Medina, I. Gamboa-deBuen, A. Rodríguez-Laguna, A.E. Buenfil, C. Ruíz-Trejo, E. Estrada, and M.E. Brandan	410
and Niels Kuster	369	Further Evaluations of the Toxicity of Irradiated Advanced	
		Heavy Water Reactor Fuels	
Screening of Alpha- and Beta-emitting Radionuclides Using Liquid Scintillation Counting and Monitoring Procedures		Geoffrey W.R. Edwards and Nicholas D. Priest	417
in Radiation Emergencies		CELEVITA C. III. di C. C. C. dans de Efficience for	
Seokwon Yoon, Wi-Ho Ha, Jaeryong Yoo, and Seung-Sook Lee	382	GEANT4 Calibration of Gamma Spectrometry Efficiency for Measurements of Airborne Radioactivity on Filter Paper	
Scientific Foundation of Regulating Ionizing Radiation:		Tareg Alrefae	435
		Tareq America	
Application of Metrics for Evaluation of Regulatory Science Information			
A. Alan Moghissi, Vikrham Kumar Gerraa, Dennis K. McBride,			
	388		
and whenaer Swemann	200	REVIEW PAPER	
Calculating an Unknown Source Activity Using Modeled		Potential Hazard Due to Induced Radioactivity Secondary	
and Experimental Results	395	to Radiotherapy: The Report of Task Group 136 of the	
Matthew S. Rowan, Thomas E. Blue, and Kevin Herminghuysen	393	American Association of Physicists in Medicine	
Worker Protection Implications of the Solubility and Human		Bruce Thomadsen, Ravinder Nath, Fred B. Bateman, Jonathan Farr,	
Metabolism of Modern Uranium Mill Products in the U.S.		Cal Glisson, Mohammad K. Islam, Terry LaFrance, Mary E. Moore,	
	403	X. George Xu, and Mark Yudelev	44

(continued)

Health Physics (ISSN 0017-9078), a peer-reviewed journal, is a publication of the Health Physics Society and is published monthly by Lippincott Williams & Wilkins, 16522 Hunters Green Parkway, Hagerstown, MD 21740-2116. Business offices are located at Two Commerce Square, 2001 Market St., Philadelphia, PA 19103. Periodical postage paid at Hagerstown, MD, and at additional mailing offices. Copyright © 2014 by the Health Physics Society. Annual subscription rates: United States - \$709.00 Individual, \$2,842.00 Institution. Rest of World - \$771.00 Individual, \$2,934.00 Institution. Single copy rate \$237.00. Subscriptions outside the United States must be prepaid. Subscriptions outside North America must add \$32.00 for airfreight delivery. GST tax of 7% will be added to the subscription price of all orders shipped to Canada. (Lippincott Williams & Wilkins GST Identification #895524239. Publications Mail Agreement #40052291). Prices subject to change without notice. Subscriptions will begin with currently available issue unless otherwise requested. Copies will be replaced without charge if the publisher receives a request within 90 days of the mailing date. Individual subscription rates include print and access to the online version. Institutional rates are for print only; online subscriptions are available via Ovid. Please contact the Ovid Regional Sales Office near you for more information on institutional online access. Visit www.lww.com/resources/librarians/ for contact information. POSTMASTER: Address for nonmember subscription information, orders, or change of address: 16522 Hunters Green Parkway, Hagerstown, MD 21740-2116; phone 1-800-638-3030 or 1-301-223-2300; fax 1-301-223-2400. In Japan, contact LWW Igaku-Shoin Ltd., 3-23-14 Hongo, Bunkyo-ku, Tokyo 113-0033; phone 81-3-5689-5400; fax 81-3-5689-5402. In Bangladesh, India, Nepal, Sri Lanka, and Pakistan, contact Globe Publications Pvt. Ltd. B-13 3<sup>rd</sup> Floor, A Block, Shopping Complex, Naraina Vihar, Ring Road, New Delhi, 110028; India phone 91-11-579-3211; f

# CONTENTS (continued)

#### IN MEMORIAM

Warren Keith Sinclair (1924 to 2014)	1101933
John D. Boice, Jr. and David A. Schauer	46
OTHER CONTENT	

News and Notices	464
Meetings	468

<b>Health Physics Society</b>	Prospectus	470
<b>Health Physics Society</b>	Affiliate Members	471
<b>Author Guidelines</b>	Appears in the January and	d July issues
<b>Advertisers Guide</b>	Appears at the back of this issue	
Advertisers Index	Appears at the back	of this issue
Up and Coming	Appears at the back	

On the cover: Permanently mounted lead and acrylic scatterers in a classic double-scattering, proton-beam delivery system for radiotherapy, examples of radiotherapy equipment that become activated during treatments and of concern for personnel exposures. See the review paper by Thomadsen et al. on p. 442 for more information.