

## **NRC Publications for the CCRI(I)**

### **1 Refereed publications, 2005-07**

- [1] McCaffrey, J.P., Shen, H., Downton, B., Mainegra-Hing, E. "Radiation attenuation by lead and nonlead materials used in radiation shielding garments", *Med. Phys.* 34, 530-537, 2007.
- [2] Mainegra-Hing, E., Rogers, D.W.O. "On the accuracy of techniques for obtaining the calibration coefficient  $N_K$  of  $^{192}\text{Ir}$  HDR brachytherapy sources", *Med. Phys.* 33, 3340-3347, 2006.
- [3] Kawrakow, I., Walters, B.R.B. "Efficient photon beam dose calculations using DOSXYZnrc with BEAMnrc", *Med. Phys.* 33, 3046-3056, 2006.
- [4] Mainegra-Hing, E., Kawrakow, I. "Efficient x-ray tube simulations", *Med. Phys.* 33, 2683-2690, 2006.
- [5] Kawrakow, I. "On the effective point of measurement in megavoltage photon beams", *Med. Phys.* 33, 1829-1839, 2006.
- [6] McEwen, M.R., Niven, D. "Characterization of the phantom material Virtual Water in high-energy photon and electron beams", *Med. Phys.* 33, 876-887, 2006.
- [7] Kramer, R., Khoury, H.J., Vieira, J.W., Kawrakow, I. "Skeletal dosimetry in the MAX06 and the FAX06 phantoms for external exposure to photons based on vertebral 3D-microCT images", *Phys. Med. Biol.* 51, 6265-6289, 2006.
- [8] McEwen, M.R., Palmans, H., Williams, A. "An empirical method for the determination of wall perturbation factors for parallel-plate chambers in high-energy electron beams", *Phys. Med. Biol.* 51, 5167-5181, 2006.
- [9] Medin, J., Ross, C.K., Klassen, N.V., Palmans, H., Grusell, E., Grindborg, J.E. "Experimental determination of beam quality factors,  $k_Q$ , for two types of Farmer chamber in a 10 MV photon and a 175 MeV proton beam", *Phys. Med. Biol.* 51, 1503-1521, 2006.
- [10] Tonkopi, E., McEwen, M.R., Walters, B.R.B., Kawrakow, I. "Influence of ion chamber response on in-air profile measurements in megavoltage photon beams", *Med. Phys.* 32, 2918-2927, 2005.
- [11] Kawrakow, I. "On the efficiency of photon beam treatment head simulations", *Med. Phys.* 32, 2320-2326, 2005.

[12] Mainegra-Hing, E., Rogers, D.W.O., Kawrakow, I. "Calculation of photon energy deposition kernels and electron dose point kernels in water", *Med. Phys.* 32, 685-699, 2005.

[13] McCaffrey, J.P., Downton, B., Shen, H., Niven, D., McEwen, M.R. "Pre-irradiation effects on ionization chambers used in radiation therapy", *Phys. Med. Biol.* 50, N121-N133, 2005.

[14] Zeng, G.G., McEwen, M.R., Rogers, D.W.O., Klassen, N.V. "An experimental and Monte Carlo investigation of the energy dependence of alanine/EPR dosimetry: II. Clinical electron beams", *Phys. Med. Biol.* 50, 1119-1129, 2005.

[15] Zeng, G.G., McCaffrey, J.P. "The response of alanine to a 150 keV X-ray beam", *Radiat. Phys. Chem.* 72, 537-540, 2005.

## **2 Conference presentations, 2005-07**

[1] McEwen M. R., Sephton J. P. and Sharpe P. H. G. 2006 Alanine as a precision validation tool for reference dosimetry Proceedings of the PTB Workshop PTB-Dos-51 on Alanine dosimetry for clinical applications (Braunschweig: Physikalisch-Technische Bundesanstalt)

[2] Ross, C.K., Klassen, N.V., McEwen, M.R. "The development and testing of an all-glass vessel for absorbed dose to water", 51st Annual Meeting of the Canadian Organization of Medical Physicists and the Canadian College of Physicists in Medicine : abstracts (Hamilton, Ontario, Canada, July 7-9, 2005), *Med. Phys.* 32, 2422 (Sci-PM Fri - 07), July 2005.

[3] Stewart, K.J., Klassen, N.V., Ross, C.K., Seuntjens, J.P. "Design and testing of a new sealed water calorimeter for electron beams", 51st Annual Meeting of the Canadian Organization of Medical Physicists and the Canadian College of Physicists in Medicine : abstracts (Hamilton, Ontario, Canada, July 7-9, 2005), *Med. Phys.* 32, 2419 (Sci-YIS Fri - 05), July 2005.

[4] Buckley, L., Rogers, D.W.O. "Calculated  $P_{\text{wall}}$  values in clinical photon beams", 51st Annual Meeting of the Canadian Organization of Medical Physicists and the Canadian College of Physicists in Medicine : abstracts (Hamilton, Ontario, Canada, July 7-9, 2005), *Med. Phys.* 32, 2418-2419 (Sci-YIS Fri - 02), July 2005.

[5] Selvam, T.P., Saull, P.R.B., Rogers, D.W.O. "Monte Carlo modelling of the response of NRC's 90Sr/90Y primary beta standard", American Association of Physicists in Medicine 47th Annual Meeting : abstracts (Seattle, Washington, USA, July 24-28, 2005), *Med. Phys.* 32, 2165-2166 (TH-C-T-617-08), June 2005.

- [6] Stewart, K.J., Klassen, N.V., Ross, C.K., Seuntjens, J.P. "Development of a sealed water calorimeter for clinical electron beams", American Association of Physicists in Medicine 47th Annual Meeting : abstracts (Seattle, Washington, USA, July 24-28, 2005), *Med. Phys.* 32, 2137-2138 (WE-D-T-617-06), June 2005.
- [7] McEwen, M.R., Ross, C.K. "Direct calibration of ionization chambers in linac photon beams", American Association of Physicists in Medicine 47th Annual Meeting : abstracts (Seattle, Washington, USA, July 24-28, 2005), *Med. Phys.* 32, 2128 (WE-C-T-617-02), June 2005.
- [8] Tonkopi, E., McEwen, M.R., Kawrakow, I. "Influence of ion chamber response on in-air profile measurements in megavoltage photon beams", American Association of Physicists in Medicine 47th Annual Meeting : abstracts (Seattle, Washington, USA, July 24-28, 2005), *Med. Phys.* 32, 2071 (MO-E-T-617-06), June 2005.
- [9] McCaffrey, J.P., Downton, B., Shen, H., Niven, D., McEwen, M.R. "The effects of pre-irradiation on ionization chambers used in radiation therapy", American Association of Physicists in Medicine 47th Annual Meeting : abstracts (Seattle, Washington, USA, July 24-28, 2005), *Med. Phys.* 32, 2009 (SU-FF-T-256), June 2005.
- [10] Lalonde, M., McCaffrey, J.P., McEwen, M.R. "Investigation of anomalous recombination behaviour in cylindrical ionization chambers", American Association of Physicists in Medicine 47th Annual Meeting : abstracts (Seattle, Washington, USA, July 24-28, 2005), *Med. Phys.* 32, 2006 (SU-FF-T-244), June 2005.
- [11] McEwen, M.R. "Detailed characterization of the water-equivalent material virtual water in high-energy photon and electron beams", American Association of Physicists in Medicine 47th Annual Meeting : abstracts (Seattle, Washington, USA, July 24-28, 2005), *Med. Phys.* 32, 2003-2004 (SU-FF-T-234), June 2005.
- [11] El Naqa, I., Kawrakow, I., Fippel, M., Siebers, J.V., Lindsay, P.E., Wickerhauser, M.V., Vicic, M., Zakarian, K., Kauffmann, N., Deasy, J.O. "A comparison of Monte Carlo dose calculation denoising techniques", International Workshop on Current Topics in Monte Carlo Treatment Planning (Montreal, Quebec, Canada, May 3-5, 2004), *Phys. Med. Biol.* 50, 909-922, March 7, 2005.

### **3 Others, 2005-07**

- [1] Stewart, K.J., Ross, C.K., Klassen, N.V., Seuntjens, J.P. "Developments in water calorimetry for electron beam radiation dosimetry", *InterACTIONS* : Canadian medical physics newsletter 52 (1), 16, January 2006.

[2] Sinclair, L.E., Carson, J.M., Saull, P.R.B. Gamma-ray gradiometry for point-source location, 13 p., Geological Survey of Canada, September 2006.

[3] McEwen M. R. 2006 "Radiation Dosimetry for Oncology" in Encyclopedia of Medical Devices and Instrumentation 2<sup>nd</sup> Edition, ed. J G Webster Hoboken: John Wiley.