PAPERS

3241 From static to dynamic 1.5T MRI-linac prototype: impact of gantry position related magnetic field variation on image fidelity
Sjoerd Crijns and Bas Raaymakers

3249 Thermal dose dependent optical property changes of \textit{ex vivo} chicken breast tissues between 500 and 1100 nm
Matthew T Adams, Qi Wang, Robin O Cleveland and Ronald A Roy

3261 Fundamental limits of scintillation detector timing precision
Stephen E Derenzo, Woon-Seng Choong and William W Moses

3287 Thermophysical investigation of Gafchromic EBT2 films using photoacoustic spectroscopy
A Aydarous, S Abdallah and M Al Towairqi

3297 Average absorption cross-section of the human body measured at 1–12 GHz in a reverberant chamber: results of a human volunteer study
I D Flintoft, M P Robinson, G C R Melia, A C Marvin and J F Dawson

3319 Modeling the efficiency of a magnetic needle for collecting magnetic cells
Kimberly S Butler, Natalie L Adolphi, H C Bryant, Debbie M Lovato, Richard S Larson and Edward R Flynn

3337 Graphical user interface for yield and dose estimations for cyclotron-produced technetium
X Hou, M Vuckovic, K Buckley, F Bénard, P Schaffer, T Ruth and A Celler

3353 A small-scale anatomical dosimetry model of the liver
Anna Stenvall, Erik Larsson, Sven-Erik Strand and Bo-Anders Jönsson

3373 In-beam PET imaging for on-line adaptive proton therapy: an initial phantom study
Yiping Shao, Xishan Sun, Kai Lou, Xiaorong R Zhu, Dragon Mirkovic, Falk Poenisch and David Grosshans

3389 Correlation between human and model observer performance for discrimination task in CT
Yi Zhang, Shuai Leng, Lifeng Yu, Rickey E Carter and Cynthia H McCollough

3405 DigiPET: sub-millimeter spatial resolution small-animal PET imaging using thin monolithic scintillators
Samuel España, Radoslaw Marcinkowski, Vincent Keereman, Stefaan Vandenberghe and Roel Van Holen

3421 A new dual threshold time-over-threshold circuit for fast timing in PET
Alexander M Grant and Craig S Levin

3431 4D optimization of scanned ion beam tracking therapy for moving tumors
John Gordon Eley, Wayne David Newhauser, Robert Lüchtenborg, Christian Graeff and Christoph Bert

3453 Theoretical assessment of the maximum obtainable power in wireless power transfer constrained by human body exposure limits in a typical room scenario
Xi Lin Chen, Valerio De Santis and Aghuinyue Esai Umenei

3465 Cavitation-enhanced MR-guided focused ultrasound ablation of rabbit tumors \textit{in vivo} using phase shift nanoemulsions
Jonathan A Kopechek, Eun-Joo Park, Yong-Zhi Zhang, Natalia I Vykhodtseva, Nathan J McDannold and Tyrone M Porter

(Continued overleaf)
Limited-angle tomography for analyzer-based phase-contrast x-ray imaging
Keivan Majidi, Miles N Wernick, Jun Li, Carol Muehleman and Jovan G Brankov

Monte Carlo simulation of novel breast imaging modalities based on coherent x-ray scattering
Bahaa Ghammraoui and Andreu Badal

A PET system design by using mixed detectors: resolution properties
Jingjing Liu, Chien-Min Kao, Shuguo Gu, Peng Xiao and Qingguo Xie

Performance of a novel wafer scale CMOS active pixel sensor for bio-medical imaging
M Esposito, T Anaxagoras, A C Konstantinidis, Y Zheng, R D Speller, P M Evans, N M Allinson and K Wells

Real-time prediction of respiratory motion using a cascade structure of an extended Kalman filter and support vector regression
S-M Hong and W Bukhari

The artefacts of radiochromic film dosimetry with flatbed scanners and their causation by light scattering from radiation-induced polymers
Andreas A Schoenfeld, Daniela Poppinga, Dietrich Harder, Karl-Joachim Doerner and Bjorn Poppe

T1-weighted MRI as a substitute to CT for refocusing planning in MR-guided focused ultrasound
Max Wintermark, Nicholas J Tustison, William J Elias, James T Patrie, Wenjun Xin, Nicholas Demartini, Matt Eames, Suna Sumer, Benison Lau, Alan Cupino, John Snell, Arik Hananel, Neal Kassell and Jean-Francois Aubry

SiPM optical crosstalk amplification due to scintillator crystal: effects on timing performance
Alberto Gola, Alessandro Ferri, Alessandro Tarolli, Nicola Zorzi and Claudio Piemonte

Left ventricular strain and its pattern estimated from cine CMR and validation with DENSE
Hao Gao, Andrew Allan, Christie McComb, Xiaoyu Luo and Colin Berry

Notes

Two non-parametric methods for derivation of constraints from radiotherapy dose–histogram data
M A Ebert, S L Gulliford, F Buettner, K Foo, A Haworth, A Kennedy, D J Joseph and J W Denham

The accuracy of the out-of-field dose calculations using a model based algorithm in a commercial treatment planning system
Lilie Wang and George X Ding