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Specialties:

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Representative Publications (More Publications)

R Ter-Antonyan, RJ Jaszczak, KL Greer, JE Bowsher, SD Metzler, RE Coleman, *Combination of Converging Collimators for High-Sensitivity Brain SPECT.*, Journal of nuclear medicine : official publication, Society of Nuclear Medicine (August, 2009) [abs].

J Zhang, J Ma, S Zhou, JL Hubbs, TZ Wong, RJ Folz, ES Evans, RJ Jaszczak, R Clough, LB Marks, *Radiation-Induced Reductions in Regional Lung Perfusion: 0.1-12 Year Data from a Prospective Clinical Study.*, International journal of radiation oncology, biology, physics (July, 2009) [abs].

SD Metzler, S Vemulapalli, RJ Jaszczak, G Akabani, BB Chin, *Feasibility of Whole-Body Functional Mouse Imaging Using Helical Pinhole SPECT.*, Molecular imaging and biology : MIB : the official publication of the Academy of Molecular Imaging (June, 2009) [abs].

R Ter-Antonyan, RJ Jaszczak, JE Bowsher, KL Greer, SD Metzler, *Quantitative Evaluation of Half-Cone-Beam Scan Paths in Triple-Camera Brain SPECT.*, IEEE transactions on nuclear science, vol. 55 no. 5 (October, 2008), pp. 2518-2526 [abs].

BB Chin, SD Metzler, A Lemaire, A Curcio, S Vemulapalli, KL Greer, NA Petry, TG Turkington, RE Coleman, H Rockman, RJ Jaszczak, *Left ventricular functional assessment in mice: feasibility of high spatial and temporal resolution ECG-gated blood pool SPECT.*, Radiology, United States, vol. 245 no. 2 (November, 2007), pp. 440-8 [abs].

S Vemulapalli, SD Metzler, G Akabani, NA Petry, NJ Niehaus, X Liu, NH Patil, KL Greer, RJ Jaszczak, RE Coleman, C Dong, PJ Goldschmidt-Clermont, BB Chin, *Cell therapy in murine atherosclerosis: in vivo imaging with high-resolution helical SPECT.*, Radiology, United States, vol. 242 no. 1 (January, 2007), pp. 198-207 [abs].

R Ter-Antonyan, RJ Jaszczak, JE Bowsher, KL Greer, SD Metzler, *Brain SPECT Simulation Using Half-Cone-Beam Collimation and Single-Revolution Helical-Path Acquisition.*, IEEE transactions on nuclear science, vol. 54 no. 3 (2007), pp. 475-479 [abs].

Metzler SD, Jaszczak RJ, Greer KL, Bowsher JE. *Angular-dependent axial-shift correction for pinhole SPECT.* IEEE Trans Nucl Sci, 2007 Feb;54(1):124-129. .

SD Metzler, R Accorsi, JR Novak, AS Ayan, RJ Jaszczak, *On-axis sensitivity and resolution of a slit-slat collimator.*, Journal of nuclear medicine : official publication, Society of Nuclear Medicine, United States, vol. 47 no. 11 (November, 2006), pp. 1884-90 [abs].

RJ Jaszczak, *The early years of single photon emission computed tomography (SPECT): an anthology of selected reminiscences.*, Physics in medicine and biology, England, vol. 51 no. 13 (July, 2006), pp. R99-115 [abs].

Bobkov KV, Bowsher JE, Greer KL, Jaszczak RJ, Braun KE, Lee TJ. *Phantom assessment of new acquisition geometries for breast pinhole SPECT imaging.* IEEE Trans Nuc Sci, 2006 Jun;53(3):1162-1167. .

Bowsher JE, DeLong DM, Turkington TG, Jaszczak RJ. *Aligning emission tomography and MRI images by optimizing the emission-tomography image reconstruction objective function.* IEEE Trans Nucl Sci, 2006 Jun;53(3):1248-1258. .

Metzler SD, Jaszczak RJ. *Simultaneous multi-head calibration for pinhole SPECT.* IEEE Trans Nucl

Sci. 2006 Feb;53(1): 113-120. .

SD Metzler, RJ Jaszczak, NH Patil, S Vemulapalli, G Akabani, BB Chin, *Molecular imaging of small animals with a triple-head SPECT system using pinhole collimation.*, IEEE transactions on medical imaging, United States, vol. 24 no. 7 (July, 2005), pp. 853-62 [abs].

SD Metzler, KL Greer, RJ Jaszczak, *Determination of mechanical and electronic shifts for pinhole SPECT using a single point source.*, IEEE transactions on medical imaging, United States, vol. 24 no. 3 (March, 2005), pp. 361-70 [abs].

Metzler SD, Greer KL, Bobkov K, Jaszczak RJ. *Laser alignment system for helical pinhole SPECT.* IEEE Trans Nucl Sci, 2004 Jun; 51(3):603-610. .

MP Tornai, JE Bowsher, RJ Jaszczak, BC Pieper, KL Greer, PH Hardenbergh, RE Coleman, *Mammotomography with pinhole incomplete circular orbit SPECT.*, Journal of nuclear medicine : official publication, Society of Nuclear Medicine, United States, vol. 44 no. 4 (April, 2003), pp. 583-93 [abs].

Archer CN, Tornai MP, Bowsher JE, Metzler SD, Pieper BC, Jaszczak RJ. *Implementation and initial characterization of acquisition orbits with a dedicated emission mammotomograph.* IEEE Trans Nucl Sci, 2003 Jun; 50(3): 413-420. .

Metzler SD, Bowsher JE, Jaszczak RJ. *Geometrical similarities of the Orlov and Tuy sampling criteria and a numerical algorithm for assessing sampling completeness.* IEEE Trans Nucl Sci, 2003 Oct; 50(5): 1550-1555. .

Metzler SD, Greer KL, Jaszczak RJ. *Helical pinhole SPECT for small-animal imaging: A method for addressing sampling completeness.* IEEE Trans Nucl Sci, 2003 Oct; 50(5): 1575-1583. .

Tornai MP, Bowsher JE, Archer CN, Peter J, Jaszczak RJ, MacDonald LR, Patt BE, Iwanczyk JS. *A 3D gantry single photon emission tomograph with hemispherical coverage for dedicated breast imaging.* Nuc Instr Meth Phys Res Sec A. 2003 Jan; 497(1): 157-167. .

PA Lind, LB Marks, D Hollis, M Fan, SM Zhou, MT Munley, TD Shafman, RJ Jaszczak, RE Coleman, *Receiver operating characteristic curves to assess predictors of radiation-induced symptomatic lung injury.*, International journal of radiation oncology, biology, physics, United States, vol. 54 no. 2 (October, 2002), pp. 340-7 [abs].

SD Metzler, JE Bowsher, KL Greer, RJ Jaszczak, *Analytic determination of the pinhole collimator's point-spread function and RMS resolution with penetration.*, IEEE transactions on medical imaging, United States, vol. 21 no. 8 (August, 2002), pp. 878-87 [abs].

JE Bowsher, MP Tornai, J Peter, DE González Trotter, A Krol, DR Gilland, RJ Jaszczak, *Modeling the axial extension of a transmission line source within iterative reconstruction via multiple transmission sources.*, IEEE transactions on medical imaging, United States, vol. 21 no. 3 (March, 2002), pp. 200-15 [abs].

RT Woel, MT Munley, D Hollis, M Fan, G Bentel, MS Anscher, T Shafman, RE Coleman, RJ Jaszczak, LB Marks, *The time course of radiation therapy-induced reductions in regional perfusion: a prospective study with >5 years of follow-up.*, International journal of radiation oncology, biology, physics, United States, vol. 52 no. 1 (January, 2002), pp. 58-67 [abs].

SD Metzler, JE Bowsher, MF Smith, RJ Jaszczak, *Analytic determination of pinhole collimator sensitivity with penetration.*, IEEE transactions on medical imaging, United States, vol. 20 no. 8 (August, 2001), pp. 730-41 [abs].

KJ LaCroix, BM Tsui, EC Frey, RJ Jaszczak, *Receiver operating characteristic evaluation of iterative reconstruction with attenuation correction in 99mTc-sestamibi myocardial SPECT images.*, Journal of nuclear medicine : official publication, Society of Nuclear Medicine, UNITED STATES, vol. 41 no. 3 (March, 2000), pp. 502-13 [abs].

C Scarfone, RJ Jaszczak, DR Gilland, KL Greer, MT Munley, LB Marks, RE Coleman, *Quantitative pulmonary single photon emission computed tomography for radiotherapy applications.*, Medical physics, UNITED STATES, vol. 26 no. 8 (August, 1999), pp. 1579-88 [abs].

MP Tornai, RJ Jaszczak, TG Turkington, RE Coleman, *Small-animal PET: advent of a new era of PET research.*, Journal of nuclear medicine : official publication, Society of Nuclear Medicine, UNITED STATES, vol. 40 no. 7 (July, 1999), pp. 1176-9 .

MT Munley, LB Marks, C Scarfone, GS Sibley, EF Patz, TG Turkington, RJ Jaszczak, DR Gilland, MS Anscher, RE Coleman, *Multimodality nuclear medicine imaging in three-dimensional radiation treatment planning for lung cancer: challenges and prospects.*, Lung cancer (Amsterdam, Netherlands), IRELAND, vol. 23 no. 2 (February, 1999), pp. 105-14 [abs].

C Scarfone, RJ Jaszczak, J Li, MS Soo, MF Smith, KL Greer, RE Coleman, *Breast tumour imaging using incomplete circular orbit pinhole SPET: a phantom study.*, Nuclear medicine communications, ENGLAND, vol. 18 no. 11 (November, 1997), pp. 1077-86 [abs].

J Li, RJ Jaszczak, KL Greer, DR Gilland, DM DeLong, RE Coleman, *Evaluation of SPECT quantification of radiopharmaceutical distribution in canine myocardium.*, Journal of nuclear medicine : official publication, Society of Nuclear Medicine, UNITED STATES, vol. 36 no. 2 (February, 1995), pp. 278-86 [abs].

DR Gilland, RJ Jaszczak, TG Turkington, KL Greer, RE Coleman, *Volume and activity quantitation with iodine-123 SPECT.*, Journal of nuclear medicine : official publication, Society of Nuclear Medicine, UNITED STATES, vol. 35 no. 10 (October, 1994), pp. 1707-13 [abs].

RJ Jaszczak, DR Gilland, MW Hanson, S Jang, KL Greer, RE Coleman, *Fast transmission CT for determining attenuation maps using a collimated line source, rotatable air-copper-lead attenuators and fan-beam collimation.*, Journal of nuclear medicine : official publication, Society of Nuclear Medicine, UNITED STATES, vol. 34 no. 9 (September, 1993), pp. 1577-86 [abs].

RJ Jaszczak, J Li, H Wang, RE Coleman, *Three-dimensional SPECT reconstruction of combined*

*cone beam and parallel beam data.*, Physics in medicine and biology, ENGLAND, vol. 37 no. 3 (March, 1992), pp. 535-48 [abs].

RJ Jaszczak, KL Greer, RE Coleman, *SPECT using a specially designed cone beam collimator.*, Journal of nuclear medicine : official publication, Society of Nuclear Medicine, UNITED STATES, vol. 29 no. 8 (August, 1988), pp. 1398-405 [abs].

RJ Jaszczak, RE Coleman, *Single photon emission computed tomography (SPECT). Principles and instrumentation.*, Investigative radiology, UNITED STATES, vol. 20 no. 9 (December, 1985), pp. 897-910 [abs].

RJ Jaszczak, KL Greer, CE Floyd, CC Harris, RE Coleman, *Improved SPECT quantification using compensation for scattered photons.*, Journal of nuclear medicine : official publication, Society of Nuclear Medicine, UNITED STATES, vol. 25 no. 8 (August, 1984), pp. 893-900 [abs].

RJ Jaszczak, *Physical characteristics of SPECT systems, September, 1982.*, Journal of computer assisted tomography, UNITED STATES, vol. 6 no. 6 (December, 1982), pp. 1205-15 .

RJ Jaszczak, FR Whitehead, CB Lim, RE Coleman, *Lesion detection with single-photon emission computed tomography (SPECT) compared with conventional imaging.*, Journal of nuclear medicine : official publication, Society of Nuclear Medicine, UNITED STATES, vol. 23 no. 2 (February, 1982), pp. 97-102 [abs].

RJ Jaszczak, LT Chang, NA Stein, FE Moore, *Whole-body single-photon emission computed tomography using dual, large-field-of-view scintillation cameras.*, Physics in medicine and biology, ENGLAND, vol. 24 no. 6 (November, 1979), pp. 1123-43 [abs].

RJ Jaszczak, PH Murphy, D Huard, JA Burdine, *Radionuclide emission computed tomography of the head with <sup>99m</sup>Cc and a scintillation camera.*, Journal of nuclear medicine : official publication, Society of Nuclear Medicine, UNITED STATES, vol. 18 no. 4 (April, 1977), pp. 373-80 [abs].

RJ Jaszczak, *Line spread response for a scintillation camera and movable filter plate system.*, Physics in medicine and biology, ENGLAND, vol. 19 no. 3 (May, 1974), pp. 362-72 .

RJ Jaszczak, *Increased resolving power from scintillation cameras using electronic signal processing and a movable filter plate.*, Journal of nuclear medicine : official publication, Society of Nuclear Medicine, UNITED STATES, vol. 14 no. 1 (January, 1973), pp. 14-20 .

RJ Jaszczak, CE Floyd, SH Manglos, KL Greer, RE Coleman, *Cone beam collimation for single photon emission computed tomography: analysis, simulation, and image reconstruction using filtered backprojection.*, Medical physics, UNITED STATES, vol. 13 no. 4 , pp. 484-9 [abs].

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