

David Sarrut

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116
papers

3,622
citations

29
h-index

58
g-index

162
ext. papers

4,289
ext. citations

2.8
avg, IF

5.2
L-index

| # | Paper | IF | Citations |
|-----|---|------|-----------|
| 116 | GATE V6: a major enhancement of the GATE simulation platform enabling modelling of CT and radiotherapy. <i>Physics in Medicine and Biology</i> , 2011 , 56, 881-901 | 3.8 | 488 |
| 115 | Evaluation of registration methods on thoracic CT: the EMPIRE10 challenge. <i>IEEE Transactions on Medical Imaging</i> , 2011 , 30, 1901-20 | 11.7 | 311 |
| 114 | Results of a multi-institution deformable registration accuracy study (MIDRAS). <i>International Journal of Radiation Oncology Biology Physics</i> , 2010 , 76, 583-96 | 4 | 300 |
| 113 | A review of the use and potential of the GATE Monte Carlo simulation code for radiation therapy and dosimetry applications. <i>Medical Physics</i> , 2014 , 41, 064301 | 4.4 | 219 |
| 112 | A Monte Carlo pencil beam scanning model for proton treatment plan simulation using GATE/GEANT4. <i>Physics in Medicine and Biology</i> , 2011 , 56, 5203-19 | 3.8 | 119 |
| 111 | Evaluation of deformable registration of patient lung 4DCT with subanatomical region segmentations. <i>Medical Physics</i> , 2008 , 35, 775-81 | 4.4 | 110 |
| 110 | 4D-CT lung motion estimation with deformable registration: quantification of motion nonlinearity and hysteresis. <i>Medical Physics</i> , 2008 , 35, 1008-18 | 4.4 | 106 |
| 109 | Spatiotemporal motion estimation for respiratory-correlated imaging of the lungs. <i>Medical Physics</i> , 2011 , 38, 166-78 | 4.4 | 105 |
| 108 | Optimization of GEANT4 settings for Proton Pencil Beam Scanning simulations using GATE. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2010 , 268, 3295-3305 | 1.2 | 95 |
| 107 | Distributions of secondary particles in proton and carbon-ion therapy: a comparison between GATE/Geant4 and FLUKA Monte Carlo codes. <i>Physics in Medicine and Biology</i> , 2013 , 58, 2879-99 | 3.8 | 93 |
| 106 | Simulation of four-dimensional CT images from deformable registration between inhale and exhale breath-hold CT scans. <i>Medical Physics</i> , 2006 , 33, 605-17 | 4.4 | 90 |
| 105 | The Reconstruction Toolkit (RTK), an open-source cone-beam CT reconstruction toolkit based on the Insight Toolkit (ITK). <i>Journal of Physics: Conference Series</i> , 2014 , 489, 012079 | 0.3 | 80 |
| 104 | Simulation of a 6 MV Elekta Precise Linac photon beam using GATE/GEANT4. <i>Physics in Medicine and Biology</i> , 2011 , 56, 903-18 | 3.8 | 72 |
| 103 | Deformable registration for image-guided radiation therapy. <i>Zeitschrift Fur Medizinische Physik</i> , 2006 , 16, 285-97 | 7.6 | 68 |
| 102 | ESTRO ACROP: Technology for precision small animal radiotherapy research: Optimal use and challenges. <i>Radiotherapy and Oncology</i> , 2018 , 126, 471-478 | 5.3 | 62 |
| 101 | Automated segmentation of a motion mask to preserve sliding motion in deformable registration of thoracic CT. <i>Medical Physics</i> , 2012 , 39, 1006-15 | 4.4 | 62 |
| 100 | Filtered backprojection proton CT reconstruction along most likely paths. <i>Medical Physics</i> , 2013 , 40, 031103 | 4.3 | 61 |

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| 99 | Is abdominal compression useful in lung stereotactic body radiation therapy? A 4DCT and dosimetric lobe-dependent study. <i>Physica Medica</i> , 2013 , 29, 333-40 | 2.7 | 56 |
| 98 | Registration of sliding objects using direction dependent B-splines decomposition. <i>Physics in Medicine and Biology</i> , 2013 , 58, 1303-14 | 3.8 | 53 |
| 97 | Towards an efficient microsystem for the real-time detection and quantification of mercury in water based on a specifically designed fluorogenic binary task-specific ionic liquid. <i>Angewandte Chemie - International Edition</i> , 2010 , 49, 424-7 | 16.4 | 53 |
| 96 | Comparison of analytic and algebraic methods for motion-compensated cone-beam CT reconstruction of the thorax. <i>IEEE Transactions on Medical Imaging</i> , 2009 , 28, 1513-25 | 11.7 | 51 |
| 95 | Multi-dimensional respiratory motion tracking from markerless optical surface imaging based on deformable mesh registration. <i>Physics in Medicine and Biology</i> , 2012 , 57, 357-73 | 3.8 | 50 |
| 94 | Patient setup error measurement using 3D intensity-based image registration techniques. <i>International Journal of Radiation Oncology Biology Physics</i> , 2003 , 56, 259-65 | 4 | 49 |
| 93 | Nonrigid registration method to assess reproducibility of breath-holding with ABC in lung cancer. <i>International Journal of Radiation Oncology Biology Physics</i> , 2005 , 61, 594-607 | 4 | 47 |
| 92 | Machine learning-based patient specific prompt-gamma dose monitoring in proton therapy. <i>Physics in Medicine and Biology</i> , 2013 , 58, 4563-77 | 3.8 | 46 |
| 91 | GATE as a GEANT4-based Monte Carlo platform for the evaluation of proton pencil beam scanning treatment plans. <i>Physics in Medicine and Biology</i> , 2012 , 57, 4223-44 | 3.8 | 43 |
| 90 | A comparison framework for breathing motion estimation methods from 4-D imaging. <i>IEEE Transactions on Medical Imaging</i> , 2007 , 26, 1636-48 | 11.7 | 41 |
| 89 | Tumor tracking method based on a deformable 4D CT breathing motion model driven by an external surface surrogate. <i>International Journal of Radiation Oncology Biology Physics</i> , 2014 , 88, 182-8 | 4 | 40 |
| 88 | Dynamic Partitioning of GATE Monte-Carlo Simulations on EGEE. <i>Journal of Grid Computing</i> , 2010 , 8, 241-259 | 2.9 | 31 |
| 87 | A first-in-human study investigating biodistribution, safety and recommended dose of a new radiolabeled MAb targeting FZD10 in metastatic synovial sarcoma patients. <i>BMC Cancer</i> , 2018 , 18, 646 | 4.8 | 29 |
| 86 | Computed tomographic atlas for the new international lymph node map for lung cancer: A radiation oncologist perspective. <i>Practical Radiation Oncology</i> , 2013 , 3, 54-66 | 2.8 | 28 |
| 85 | Region-oriented CT image representation for reducing computing time of Monte Carlo simulations. <i>Medical Physics</i> , 2008 , 35, 1452-63 | 4.4 | 28 |
| 84 | Influence of Geant4 parameters on dose distribution and computation time for carbon ion therapy simulation. <i>Physica Medica</i> , 2010 , 26, 202-8 | 2.7 | 27 |
| 83 | Impact of probe pressure variability on prostate localization for ultrasound-based image-guided radiotherapy. <i>Radiotherapy and Oncology</i> , 2014 , 111, 132-7 | 5.3 | 23 |
| 82 | Proton therapy monitoring by Compton imaging: influence of the large energy spectrum of the prompt- γ radiation. <i>Physics in Medicine and Biology</i> , 2016 , 61, 3127-46 | 3.8 | 23 |

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| 81 | Monte Carlo simulation on heterogeneous distributed systems: A computing framework with parallel merging and checkpointing strategies. <i>Future Generation Computer Systems</i> , 2013 , 29, 728-738 | 7.5 | 21 |
| 80 | OpenDose: Open-Access Resource for Nuclear Medicine Dosimetry. <i>Journal of Nuclear Medicine</i> , 2020 , 61, 1514-1519 | 8.9 | 19 |
| 79 | Evaluation of a new transperineal ultrasound probe for inter-fraction image-guidance for definitive and post-operative prostate cancer radiotherapy. <i>Physica Medica</i> , 2016 , 32, 499-505 | 2.7 | 19 |
| 78 | Surrogate-driven deformable motion model for organ motion tracking in particle radiation therapy. <i>Physics in Medicine and Biology</i> , 2015 , 60, 1565-82 | 3.8 | 17 |
| 77 | Split exponential track length estimator for Monte-Carlo simulations of small-animal radiation therapy. <i>Physics in Medicine and Biology</i> , 2014 , 59, 7703-15 | 3.8 | 17 |
| 76 | An efficient numerical tool for dose deposition prediction applied to synchrotron medical imaging and radiation therapy. <i>Journal of Synchrotron Radiation</i> , 2013 , 20, 785-92 | 2.4 | 16 |
| 75 | Lung Deformation Estimation with Non-rigid Registration for Radiotherapy Treatment. <i>Lecture Notes in Computer Science</i> , 2003 , 770-777 | 0.9 | 16 |
| 74 | Ultrasound versus Cone-beam CT image-guided radiotherapy for prostate and post-prostatectomy pretreatment localization. <i>Physica Medica</i> , 2015 , 31, 997-1004 | 2.7 | 15 |
| 73 | PET-based dose delivery verification in proton therapy: a GATE based simulation study of five PET system designs in clinical conditions. <i>Physics in Medicine and Biology</i> , 2013 , 58, 6867-85 | 3.8 | 14 |
| 72 | Validation of fast Monte Carlo dose calculation in small animal radiotherapy with EBT3 radiochromic films. <i>Physics in Medicine and Biology</i> , 2016 , 61, 3521-35 | 3.8 | 14 |
| 71 | 3D absorbed dose distribution estimated by Monte Carlo simulation in radionuclide therapy with a monoclonal antibody targeting synovial sarcoma. <i>EJNMMI Physics</i> , 2017 , 4, 6 | 4.4 | 13 |
| 70 | Deformable image registration applied to lung SBRT: Usefulness and limitations. <i>Physica Medica</i> , 2017 , 44, 108-112 | 2.7 | 12 |
| 69 | Technical Note: GATE-RTion: a GATE/Geant4 release for clinical applications in scanned ion beam therapy. <i>Medical Physics</i> , 2020 , 47, 3675-3681 | 4.4 | 12 |
| 68 | . <i>IEEE Transactions on Nuclear Science</i> , 2013 , 60, 423-429 | 1.7 | 12 |
| 67 | A track length estimator method for dose calculations in low-energy X-ray irradiations: implementation, properties and performance. <i>Zeitschrift Fur Medizinische Physik</i> , 2015 , 25, 36-47 | 7.6 | 10 |
| 66 | Aramis 2018 , | | 10 |
| 65 | A GATE/Geant4 beam model for the MedAustron non-isocentric proton treatment plans quality assurance. <i>Physica Medica</i> , 2020 , 71, 115-123 | 2.7 | 9 |
| 64 | Optimization of GATE simulations for whole-body planar scintigraphic acquisitions using the XCAT male phantom with Lu-DOTATATE biokinetics in a Siemens Symbia T2. <i>Physica Medica</i> , 2017 , 42, 292-297 ^{2.7} | | 9 |

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| 63 | Advanced Monte Carlo simulations of emission tomography imaging systems with GATE. <i>Physics in Medicine and Biology</i> , 2021 , 66, | 3.8 | 9 |
| 62 | Accelerated prompt gamma estimation for clinical proton therapy simulations. <i>Physics in Medicine and Biology</i> , 2016 , 61, 7725-7743 | 3.8 | 9 |
| 61 | Generative adversarial networks (GAN) for compact beam source modelling in Monte Carlo simulations. <i>Physics in Medicine and Biology</i> , 2019 , 64, 215004 | 3.8 | 8 |
| 60 | Semiautomatic registration of 3D transabdominal ultrasound images for patient repositioning during postprostatectomy radiotherapy. <i>Medical Physics</i> , 2014 , 41, 122903 | 4.4 | 8 |
| 59 | Respiratory signal extraction for 4D CT imaging of the thorax from cone-beam CT projections. <i>Lecture Notes in Computer Science</i> , 2005 , 8, 556-63 | 0.9 | 8 |
| 58 | Geometrical Transformation Approximation for 2D/3D Intensity-Based Registration of Portal Images and CT Scan. <i>Lecture Notes in Computer Science</i> , 2001 , 532-540 | 0.9 | 8 |
| 57 | Voxel-based multimodel fitting method for modeling time activity curves in SPECT images. <i>Medical Physics</i> , 2017 , 44, 6280-6288 | 4.4 | 7 |
| 56 | An image-based method to synchronize cone-beam CT and optical surface tracking. <i>Journal of Applied Clinical Medical Physics</i> , 2015 , 16, 5152 | 2.3 | 7 |
| 55 | Monte-Carlo based prediction of radiochromic film response for hadrontherapy dosimetry. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2009 , 606, 749-754 | 1.2 | 7 |
| 54 | Respiratory motion estimation from cone-beam projections using a prior model. <i>Lecture Notes in Computer Science</i> , 2009 , 12, 365-72 | 0.9 | 7 |
| 53 | Comparison of electromagnetic transmitter and ultrasound imaging for intrafraction monitoring of prostate radiotherapy. <i>Radiotherapy and Oncology</i> , 2019 , 136, 1-8 | 5.3 | 6 |
| 52 | Monte Carlo simulation of digital photon counting PET. <i>EJNMMI Physics</i> , 2020 , 7, 23 | 4.4 | 6 |
| 51 | Monte Carlo simulation of prompt β -ray emission in proton therapy using a specific track length estimator. <i>Physics in Medicine and Biology</i> , 2015 , 60, 8067-86 | 3.8 | 6 |
| 50 | A FAST MORPHING-BASED INTERPOLATION FOR MEDICAL IMAGES: APPLICATION TO CONFORMAL RADIOOTHERAPY. <i>Image Analysis and Stereology</i> , 2006 , 25, 95 | 1 | 6 |
| 49 | Learning SPECT detector angular response function with neural network for accelerating Monte-Carlo simulations. <i>Physics in Medicine and Biology</i> , 2018 , 63, 205013 | 3.8 | 6 |
| 48 | Fixed forced detection for fast SPECT Monte-Carlo simulation. <i>Physics in Medicine and Biology</i> , 2018 , 63, 055011 | 3.8 | 5 |
| 47 | An empirical model for calculation of the collimator contamination dose in therapeutic proton beams. <i>Physics in Medicine and Biology</i> , 2016 , 61, 1532-45 | 3.8 | 5 |
| 46 | B-LUT: Fast and low memory B-spline image interpolation. <i>Computer Methods and Programs in Biomedicine</i> , 2010 , 99, 172-8 | 6.9 | 5 |

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| 45 | Capability of MLEM and OE to Detect Range Shifts With a Compton Camera in Particle Therapy. <i>IEEE Transactions on Radiation and Plasma Medical Sciences</i> , 2020 , 4, 233-242 | 4.2 | 5 |
| 44 | Image-based SPECT calibration based on the evaluation of the Fraction of Activity in the Field of View. <i>EJNMMI Physics</i> , 2018 , 5, 11 | 4.4 | 5 |
| 43 | 532 oral A NOVEL CT-BASED CONTRAST ENHANCEMENT TECHNIQUE FOR MARKERLESS LUNG TUMOR TRACKING IN X-RAY PROJECTION IMAGES. <i>Radiotherapy and Oncology</i> , 2011 , 99, S217 | 5.3 | 4 |
| 42 | Hybrid GATE: A GPU/CPU implementation for imaging and therapy applications 2012 , | | 4 |
| 41 | Comparison of 3D dense deformable registration methods for breath-hold reproducibility study in radiotherapy 2005 , | | 4 |
| 40 | CCMod: a GATE module for Compton camera imaging simulation. <i>Physics in Medicine and Biology</i> , 2020 , 65, 055004 | 3.8 | 4 |
| 39 | In vivo gadolinium nanoparticle quantification with SPECT/CT. <i>EJNMMI Physics</i> , 2019 , 6, 9 | 4.4 | 3 |
| 38 | Learning directional relative positions between mediastinal lymph node stations and organs. <i>Medical Physics</i> , 2014 , 41, 061905 | 4.4 | 3 |
| 37 | 3-D Reconstruction Benchmark of a Compton Camera Against a Parallel-Hole Gamma Camera on Ideal Data. <i>IEEE Transactions on Radiation and Plasma Medical Sciences</i> , 2020 , 4, 479-488 | 4.2 | 3 |
| 36 | Modeling complex particles phase space with GAN for Monte Carlo SPECT simulations: a proof of concept. <i>Physics in Medicine and Biology</i> , 2021 , 66, 055014 | 3.8 | 3 |
| 35 | Enabling Grids for GATE Monte-Carlo Radiation Therapy Simulations with the GATE-Lab 2011 , | | 2 |
| 34 | Fast 3D image transformations for registration procedures | | 2 |
| 33 | Mid-position treatment strategy for locally advanced lung cancer: a dosimetric study. <i>British Journal of Radiology</i> , 2020 , 93, 20190692 | 3.4 | 2 |
| 32 | In-room breathing motion estimation from limited projection views using a sliding deformation model. <i>Journal of Physics: Conference Series</i> , 2014 , 489, 012026 | 0.3 | 1 |
| 31 | In regard to Yang et al. <i>International Journal of Radiation Oncology Biology Physics</i> , 2012 , 84, 304; author reply 304-5 | 4 | 1 |
| 30 | Cone-beam projection of a deformable volume for motion compensated algebraic reconstruction. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , 2007 , 2007, 6544-7 | | 1 |
| 29 | Intégration de connaissances et modélisation en imagerie médicale. <i>IRBM News</i> , 2004 , 25, 139-149 | | 1 |
| 28 | Convergence speed of deformable models | | 1 |

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| 27 | Projection-based dynamic tomography. <i>Physics in Medicine and Biology</i> , 2021 , 66, | 3.8 | 1 |
| 26 | Kernel Based Image Classification. <i>Lecture Notes in Computer Science</i> , 2001 , 369-375 | 0.9 | 1 |
| 25 | Artificial Intelligence for Monte Carlo Simulation in Medical Physics. <i>Frontiers in Physics</i> , 2021 , 9, | 3.9 | 1 |
| 24 | Validation and Comparison of Approaches to Respiratory Motion Estimation 2013 , 159-183 | | 1 |
| 23 | ARAMIS: A Remote Access Medical Imaging System. <i>Lecture Notes in Computer Science</i> , 1999 , 55-60 | 0.9 | 1 |
| 22 | SYNFRIZZ: A first-in-human (FIH) study of a radiolabeled monoclonal antibody (Mab) targeting frizzled homolog 10 (FZD10) in patients (pts) with advanced synovial sarcomas (SyS).. <i>Journal of Clinical Oncology</i> , 2017 , 35, 11054-11054 | 2.2 | 1 |
| 21 | Intensity-Based Deformable Registration: Introduction and Overview 2013 , 103-124 | | 1 |
| 20 | Influence of sub-nanosecond time of flight resolution for online range verification in proton therapy using the line-cone reconstruction in Compton imaging. <i>Physics in Medicine and Biology</i> , 2021 , 66, | 3.8 | 1 |
| 19 | Concepts and terms for dose/volume parameters in carbon-ion radiotherapy: Conclusions of the ULICE taskforce. <i>Cancer Radiotherapie: Journal De La Societe Francaise De Radiotherapie Oncologique</i> , 2018 , 22, 802-809 | 1.3 | 1 |
| 18 | Total variation and point spread function priors for MLEM reconstruction in Compton camera imaging 2018 , | | 1 |
| 17 | MO-D-L100J-08: Construction of 4D-CT Motion Model Using Deformable Registration: Comparison of Eulerian and Lagrangian Approaches. <i>Medical Physics</i> , 2007 , 34, 2517-2517 | 4.4 | 0 |
| 16 | MO-DE-210-04: Repositioning and Monitoring of Prostate Cancer Radiotherapy with a New 4D Ultrasound Intra-Modality IGRT Device. <i>Medical Physics</i> , 2015 , 42, 3560-3560 | 4.4 | 0 |
| 15 | Evaluation of GATE-RTion (GATE/Geant4) Monte Carlo simulation settings for proton pencil beam scanning quality assurance. <i>Medical Physics</i> , 2020 , 47, 5817-5828 | 4.4 | 0 |
| 14 | Yttrium-90 quantitative phantom study using digital photon counting PET. <i>EJNMMI Physics</i> , 2021 , 8, 56 | 4.4 | 0 |
| 13 | Minimum non-isotropic and asymmetric margins for taking into account intrafraction prostate motion during moderately hypofractionated radiotherapy.. <i>Physica Medica</i> , 2022 , 96, 114-120 | 2.7 | 0 |
| 12 | Influence of Doppler broadening model accuracy in Compton camera list-mode MLEM reconstruction. <i>Inverse Problems in Science and Engineering</i> , 2021 , 29, 3509-3529 | 1.3 | 0 |
| 11 | Patient-specific dosimetry adapted to variable number of SPECT/CT time-points per cycle for [Formula: see text]Lu-DOTATATE therapy.. <i>EJNMMI Physics</i> , 2022 , 9, 37 | 4.4 | 0 |
| 10 | Monte Carlo simulations for medical and biomedical applications 2022 , 23-53 | | 0 |

- 9 Realistic Simulations for the Evaluation of Monomodal Registration Algorithms of 3D Pelvic Ultrasound Images. *Physics Procedia*, **2015**, 70, 1169-1172
- 8 Development of 2D+T tracking algorithm in ultrasound images for radiotherapy. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 2916-9 0.9
- 7 Evaluation of intrafraction motions with a transperineal ultrasound imaging system: Dosimetric impact for prostate cancer. *Physica Medica*, **2015**, 31, e25-e26 2.7
- 6 Motion artifact detection in four-dimensional computed tomography images. *Journal of Physics: Conference Series*, **2014**, 489, 012024 0.3
- 5 A linear algorithm for constructing the polygon adjacency relation in iso-surfaces of 3D images. *Lecture Notes in Computer Science*, **1997**, 125-136 0.9
- 4 Usefulness of image morphing techniques in cancer treatment by conformal radiotherapy **2004**, 5367, 332
- 3 SU-FF-T-154: Cumulating Static Dose Distributions to Simulate Dynamic Dose Distributions: An Experimental Study. *Medical Physics*, **2006**, 33, 2084-2084 4.4
- 2 SU-FF-I-99: Implementation and Evaluation of Automatic Contour Propagation in 4DCT of Lung. *Medical Physics*, **2006**, 33, 2019-2020 4.4
- 1 Respiratory Motion Correction in Cone-Beam CT for Image-Guided Radiotherapy **2013**, 319-334