Publications – David Sarrut

November 7, 2026. 400 items. **[no HAL]** = not in HAL (139). * = entry to be checked (77).

Peer-reviewed journal articles

[A123] Constanza, C., Kaprelian, T., Etxebeste, A., **Sarrut, D.**, "Jacobian-Free Unrolling: memory efficient unrolled network for 3D SPECT Reconstruction". In: *IEEE Transactions on Radiation and Plasma Medical Sciences* (Nov. 2026). (accepted) doi hal

[A122] **Sarrut, D.**, Etxebeste, A., Jacquet, M., Létang, J. M., "Free flight angular acceptance (FFAA) variance reduction technique for SPECT Monte Carlo simulations". In: *Physics in Medicine and Biology* 71.9 (May 2026), p. 095009. doi hal

[A121*] Westermayer, M., Sandu, D., Laude, C., Racadot, S., Serre, A.-A., **Sarrut, D.**, Biston, M.-C., "Evaluation of a quasi-automatic treatment planning workflow for head-and-neck cancer in radiotherapy". In: *Physics and Imaging in Radiation Oncology* 39 (May 2026), p. 100983. doi **[no HAL]**

[A120] Krah, N., Arbor, N., Baudier, T., Bert, J., Chatzipapas, K., Favaretto, M., Fuchs, H., Grevillot, L., Harb, H., Van Hoey, G., Jacquet, M., Jan, S., Jia, Y., Kagadis, G. C., Kang, H. G., Klever, P., Kochebina, O., Krzemien, W., Maigne, L., Mohr, P., Mummaneni, G., Paneta, V., Papadimitroulas, P., Pereda, A., Rannou, A., Resch, A. F., Roncali, E., Toussaint, M., Trigila, C., Tsoumpas, C., Zhang, J., Ziemons, K., **Sarrut, D.**, "GATE 10 Monte Carlo Particle Transport Simulation: II. Architecture and Innovations". In: *Physics in Medicine & Biology* 71.1 (Jan. 2026), p. 015043. doi hal

[A119] **Sarrut, D.**, Arbor, N., Baudier, T., Bert, J., Chatzipapas, K., Favaretto, M., Fuchs, H., Grevillot, L., Harb, H., Van Hoey, G., Jacquet, M., Jan, S., Jia, Y., Kagadis, G. C., Gyu Kang, H., Klever, P., Kochebina, O., Krzemien, W., Maigne, L., Mohr, P., Mummaneni, G., Paneta, V., Papadimitroulas, P., Pereda, A., Rannou, A., Resch, A. F., Roncali, E., Toussaint, M., Trigila, C., Tsoumpas, C., Zhang, J., Ziemons, K., Krah, N., "GATE 10 Monte Carlo Particle Transport Simulation: I. Development and New Features". In: *Physics in Medicine & Biology* 71.1 (Jan. 2026), p. 015042. doi hal

[A118] Rios-Sanchez, E., Giraudet, A.-L., Sanchez-Lajusticia, A., Pretet, V., Paquet, E., Baudier, T., Badel, J.-N., **Sarrut, D.**, "Predicting PSA50 Response to 177Lu-PSMA Therapy Using Machine Learning and Automated Total Tumor Volume". In: *EJNMMI Physics* 12.1 (Nov. 2025), p. 95. doi hal

[A117] Gajewski, J., Borys, D., De Gregorio, A., Kopeć, R., Krah, N., Krzempek, D., Patera, V., Rinaldi, I., Rydygier, M., **Sarrut, D.**, Schiavi, A., Skóra, T., Stasica-Dudek, P., Rucinski, A., "LET Spectra Scoring for Applications in Proton Radiotherapy". In: *Computers in Biology and Medicine* 196 (Sept. 2025), p. 110802. doi hal

[A116] Nzatsi, M. C., Varmenot, N., **Sarrut, D.**, Delpon, G., Cherel, M., Rousseau, C., Ferrer, L., "Temporal Footprint Reduction via Neural Network Denoising in 177Lu Radioligand Therapy". In: *Physica Medica* 137 (Sept. 2025), p. 105071. doi hal

[A115] Jacquet, M., Létang, J. M., Baudier, T., Boissard, P., M'hamdi, M., Diallo, I., Robert, C., **Sarrut, D.**, "Last Vertex Splitting: A New Retroactive Monte Carlo Splitting Technique Applied to LINAC out-of-Field Dose Computation". In: *Physics in Medicine and Biology* 70.15 (Aug. 2025). doi hal

[A114] Mummaneni, G., Trigila, C., Krah, N., **Sarrut, D.**, Roncali, E., "optiGAN: A Deep Learning-Based Alternative to Optical Photon Tracking in Python-based GATE (10+)". In: *Physics in Medicine & Biology* 70.13 (July 2025), p. 135009. doi hal

[A113] Kaprélian, T., Etxebeste, A., **Sarrut, D.**, "Partial Volume Correction of SPECT Images With Deep Learning Trained on Synthetic Data". In: *IEEE Transactions on Radiation and Plasma Medical Sciences* (2025), pp. 1–1. doi hal

[A112] Claude, L., Schiffler, C., Isnardi, V., Metzger, S., Darnis, S., Martel-Lafay, I., Baudier, T., Rit, S., **Sarrut, D.**, Ayadi, M., ""Mid-P strategy" versus "internal target volume strategy in locally advanced non small cell lung cancer: Clinical results from the randomized non-comparative phase II study Mid-P". In: *Radiotherapy and Oncology* 199 (Oct. 2024), p. 110435. doi hal

[A111] Vergnaud, L., Dewaraja, Y. K., Giraudet, A.-L., Badel, J.-N., **Sarrut, D.**, "A review of 177Lu dosimetry workflows: how to reduce the imaging workloads?". In: *EJNMMI Physics* 11.1 (July 2024), p. 65. doi hal

[A110] **Sarrut, D.**, Etxebeste, A., Létang, J. M., "A Photon Source Model for Alpha-Emitter Radionuclides". In: *Physics in Medicine & Biology* 69.9 (Apr. 2024), p. 095009. doi hal

[A109] Benzazon, N., Carré, A., de Kermenguy, F., Niyoteka, S., Maury, P., Colnot, J., M'hamdi, M., Aichi, M. E., Veres, C., Allodji, R., de Vathaire, F., **Sarrut, D.**, Journy, N., Alapetite, C., Grégoire, V., Deutsch, E., Diallo, I., Robert, C., "Deep-Learning for Rapid Estimation of the Out-of-Field Dose in External Beam Photon Radiation Therapy – A Proof of Concept". In: *International Journal of Radiation Oncology, Biology, Physics* (Mar. 2024). doi hal

[A108] Salvadori, J., Allegrini, O., Opsommer, T., Carullo, J., **Sarrut, D.**, Porot, C., Ritzenthaler, F., Meyer, P., Namer, I.-J., "Anatomy-Based Correction of Kidney PVE on 177Lu-SPECT Images". In: *EJNMMI Physics* 11.1 (Feb. 2024), p. 15. doi hal

[A107] di Franco, F., Baudier, T., Pialat, P. M., Munoz, A., Martinon, M., Pommier, P., **Sarrut, D.**, Biston, M.-C., "Ultra-Hypofractionated Prostate Cancer Radiotherapy: Dosimetric Impact of Real-Time Intrafraction Prostate Motion and Daily Anatomical Changes". In: *Physica Medica* (2024). doi hal

[A106] Salvadori, J., Merlet, A., Presles, B., Cabello, J., Su, K.-H., Cochet, A., Etxebeste, A., Vrigneaud, J.-M., **Sarrut, D.**, "PET digitization chain for Monte Carlo simulation in GATE". In: *Phys. Med. Biol.* (2024). doi hal

[A105] Vergnaud, L., Badel, J.-N., Giraudet, A.-L., Kryza, D., Mognetti, T., Baudier, T., Rida, H., Dieudonné, A., **Sarrut, D.**, "Performance Study of a 360° CZT Camera for Monitoring 177Lu-PSMA Treatment". In: *EJNMMI Physics* 10.1 (Sept. 2023), p. 58. doi hal

[A104] Costea, M., Zlate, A., Serre, A.-A., Racadot, S., Baudier, T., Chabaud, S., Grégoire, V., **Sarrut, D.**, Biston, M.-C., "Evaluation of Different Algorithms for Automatic Segmentation of Head-and-Neck Lymph Nodes on CT Images". In: *Radiotherapy and Oncology* (Aug. 2023). doi hal

[A103] **Sarrut, D.**, Etxebeste, A., Kaprelian, T., Saporta, A., Létang, J., "Annihilation Photon GAN Source Model for PET Monte Carlo Simulation". In: *Physics in Medicine & Biology* 68.13 (July 2023), p. 135018. doi hal

[A102] Baran, M., Tabor, Z., Rzecki, K., Ziaja, P., Szumlak, T., Kalecinska, K., Michczynski, J., Rachwal, B., Waligorski, M. P. R., **Sarrut, D.**, "Application of Conditional Generative Adversarial Networks to Efficiently Generate Photon Phase Space in Medical Linear Accelerators of Different Primary Beam Parameters". In: *Applied Sciences* 13.12 (June 2023), p. 7204. doi hal

[A101] Ayadi, M., Dupuis, P., Baudier, T., Padovani, L., **Sarrut, D.**, Sunyach, M.-P., "Management of Reirradiations: A Clinical and Technical Overview Based on a French Survey". In: *Physica Medica* 109 (May 2023), p. 102582. doi hal

[A100] Huisman, B. F. B., Muñoz, E., Dauvergne, D., Létang, J. M., **Sarrut, D.**, Testa, É., "Analytical Modeling and Monte Carlo Simulations of Multi-Parallel Slit and Knife-Edge Slit Prompt Gamma Cameras". In: *Physics in Medicine and Biology* 68.11 (May 2023). doi hal

[A99] Kryza, D., Wischhusen, J., Richaud, M., Hervieu, M., Sidi Boumedine, J., Delcros, J.-G., Besse, S., Baudier, T., Laval, P.-A., Breusa, S., Boutault, E., Clermidy, H., Rama, N., Ducarouge, B., Devouassoux-Shisheboran, M., Chezal, J.-M., Giraudet, A.-L., Walter, T., Mehlen, P., **Sarrut, D.**, Gibert, B., "From netrin-1-targeted SPECT/CT to internal radiotherapy for management of advanced solid tumors". In: *EMBO Molecular Medicine* (Mar. 2023), p. e16732. doi hal

[A98] Vergnaud, L., Robert, A., Baudier, T., Parisse-Di Martino, S., Boissard, P., Rit, S., Badel, J.-N., **Sarrut, D.**, "Dosimetric impact of 3D motion-compensated SPECT reconstruction for SIRT planning". In: *EJNMMI Physics* 10.1 (Feb. 2023), p. 8. doi hal

[A97] Hemon, C., Rigaud, B., Barateau, A., Tilquin, F., Noblet, V., **Sarrut, D.**, Meyer, P., Bert, J., De Crevoisier, R., Simon, A., "Contour-Guided Deep Learning Based Deformable Image Registration for Dose Monitoring during CBCT-guided Radiotherapy of Prostate Cancer". In: *Journal of Applied Clinical Medical Physics* (2023), p. e13991. doi hal

[A96] Plachouris, D., Eleftheriadis, V., Nanos, T., Papathanasiou, N., **Sarrut, D.**, Papadimitroulas, P., Savvidis, G., Vergnaud, L., Salvadori, J., Imperiale, A., Visvikis, D., Hazle, J. D., Kagadis, G. C., "A Radiomic- and Dosiomic-Based Machine Learning Regression Model for Pretreatment Planning in 177Lu-DOTATATE Therapy". In: *Medical Physics* (2023). doi hal

[A95] Costea, M., Zlate, A., Durand, M., Baudier, T., Grégoire, V., **Sarrut, D.**, Biston, M.-C., "Comparison of atlas-based and deep learning methods for organs at risk delineation on head-and-neck CT images using an automated treatment planning system". In: *Radiotherapy and Oncology* 177 (Dec. 2022), p. 61–70. doi hal

[A94] Saporta, A., Etxebeste, A., Kaprelian, T., Létang, J. M., **Sarrut, D.**, "Modeling families of particle distributions with conditional GAN for Monte Carlo SPECT simulations". In: *Physics in Medicine & Biology* 67.23 (Dec. 2022), p. 234001. doi hal

[A93] Muñoz, E., Etxebeste, A., Dauvergne, D., Létang, J. M., **Sarrut, D.**, Maxim, V., Testa, E., "Imaging of Polychromatic Sources through Compton Spectral Reconstruction". In: *Physics in Medicine and Biology* 67.19 (Oct. 2022). doi hal

[A92] Abbani, N., Baudier, T., Rit, S., di Franco, F., Okoli, F., Jaouen, V., Tilquin, F., Barateau, A., Simon, A., de Crevoisier, R., Bert, J., **Sarrut, D.**, "Deep learning-based segmentation in prostate radiation therapy using simulated cone-beam CT". In: *Medical Physics* to appear (Sept. 2022). doi hal

[A91] **Sarrut, D.**, Arbor, N., Baudier, T., Borys, D., Etxebeste, A., Fuchs, H., Gajewski, J., Grevillot, L., Jan, S., Kagadis, G. C., Kang, H. G., Kirov, A., Kochebina, O., Krzemien, W., Lomax, A., Papadimitroulas, P., Pommranz, C., Roncali, E., Rucinski, A., Winterhalter, C., Maigne, L., "The OpenGATE Ecosystem for Monte Carlo Simulation in Medical Physics". In: *Physics in Medicine and Biology* 67.18 (Sept. 2022).

doi hal

[A90] Vergnaud, L., Giraudet, A.-L., Moreau, A., Salvadori, J., Imperiale, A., Baudier, T., Badel, J.-N., **Sarrut, D.**, "Patient-Specific Dosimetry Adapted to Variable Number of SPECT/CT Time-Points per Cycle for 177Lu-DOTATATE Therapy". In: *EJNMMI Physics* 9.1 (May 2022), p. 37. doi hal

[A89] di Franco, F., Baudier, T., Gassa, F., Munoz, A., Martinon, M., Charcosset, S., Vigier-Lafosse, E., Pommier, P., **Sarrut, D.**, Biston, M.-C., "Minimum Non-Isotropic and Asymmetric Margins for Taking into Account Intrafraction Prostate Motion during Moderately Hypofractionated Radiotherapy". In: *Physica Medica* 96 (Apr. 2022), pp. 114–120. doi hal

[A88] Feng, Y., Létang, J. M., **Sarrut, D.**, Maxim, V., "Influence of Doppler Broadening Model Accuracy in Compton Camera List-Mode MLEM Reconstruction". In: *Inverse Problems in Science and Engineering* 29.13 (Dec. 2021), pp. 3509–3529. doi hal

[A87] Penarrubia, L., Pinon, N., Roux, E., Dávila Serrano, E. E., Richard, J.-C., Orkisz, M., **Sarrut, D.**, "Improving Motion-mask Segmentation in Thoracic CT with Multiplanar U-nets". In: *Medical Physics* 49.1 (Dec. 2021), p. mp.15347. doi hal

[A86] Robert, A., Rit, S., Baudier, T., Jomier, J., **Sarrut, D.**, "Data-Driven Respiration-Gated SPECT for Liver Radioembolization". In: *IEEE Transactions on Radiation and Plasma Medical Sciences* (Dec. 2021), pp. 1–1. doi hal

[A85] Jailin, C., Roux, S., **Sarrut, D.**, Rit, S., "Projection-Based Dynamic Tomography". In: *Physics in Medicine & Biology* (Nov. 2021). doi hal

[A84] **Sarrut, D.**, Etxebeste, A., Muñoz, E., Krah, N., Létang, J. M., "Artificial Intelligence for Monte Carlo Simulation in Medical Physics". In: *Frontiers in Physics* 9 (Oct. 2021), p. 601. doi hal

[A83] Labour, J., Boissard, P., Baudier, T., Khayi, F., Kryza, D., Durebex, P. V., Martino, S. P.-D., Mognetti, T., **Sarrut, D.**, Badel, J.-N., "Yttrium-90 Quantitative Phantom Study Using Digital Photon Counting PET". In: *EJNMMI Physics* 8.1 (July 2021), p. 56. doi hal

[A82] Livingstone, J., Dauvergne, D., Etxebeste, A., Fontana, M., Gallin-Martel, M.-L., Huisman, B., Létang, J. M., Marcatili, S., **Sarrut, D.**, Testa, E., "Influence of Sub-Nanosecond Time of Flight Resolution for Online Range Verification in Proton Therapy Using the Line-Cone Reconstruction in Compton Imaging". In: *Physics in Medicine & Biology* (June 2021). doi hal

[A81] **Sarrut, D.**, Bala, M., Bardiès, M., Bert, J., Chauvin, M., Chatzipapas, K., Dupont, M., Etxebeste, A., Fanchon, L. M., Jan, S., Kayal, G., Kirov, A. S., Kowalski, P., Krzemien, W., Labour, J., Lenz, M., Loudos, G., Mehadji, B., Ménard, L., Morel, C., Papadimitroulas, P., Rafecas, M., Salvadori, J., Seiter, D., Stockhoff, M., Testa, E., Trigila, C., Pietrzyk, U., Vandenberghe, S., Verdier, M.-A., Visvikis, D., Ziemons, K., Zvolský, M., Roncali, E., "Advanced Monte Carlo Simulations of Emission Tomography Imaging Systems with GATE". In: *Physics in Medicine and Biology* 66.10 (May 2021), p. 10TR03. doi hal

[A80] **Sarrut, D.**, Etxebeste, A., Krah, N., Létang, J.-M., "Modeling Complex Particles Phase Space with GAN for Monte Carlo SPECT Simulations: A Proof of Concept". In: *Physics in Medicine and Biology* (Feb. 2021). doi hal

[A79] Winterhalter, C., Taylor, M., Boersma, D., Elia, A., Guatelli, S., Mackay, R., Kirkby, K., Maigne, L., Ivanchenko, V., Resch, A. F., **Sarrut, D.**, Sitch, P., Vidal, M., Grevillot, L., Aitkenhead, A., "Evaluation of GATE-RTion (GATE/Geant4) Monte Carlo Simulation Settings for Proton Pencil Beam Scanning Quality Assurance". In: *Medical Physics* 47.11 (Nov. 2020), pp. 5817–5828. doi hal

[A78] Salvadori, J., Labour, J., Odille, F., Marie, P.-Y., Badel, J.-N., Imbert, L., **Sarrut, D.**, "Monte Carlo Simulation of Digital Photon Counting PET". In: *EJNMMI physics* 7.1 (Apr. 2020), p. 23. doi hal

[A77] Chauvin, M., Borys, D., Botta, F., Bzowski, P., Dabin, J., Denis-Bacelar, A. M., Desbrée, A., Falzone, N., Lee, B. Q., Mairiani, A., Malaroda, A., Mathieu, G., McKay, E., Mora-Ramirez, E., Robinson, A. P., **Sarrut, D.**, Struelens, L., Vergara Gil, A., Bardiès, M., "OpenDose: Open Access Resources for Nuclear Medicine Dosimetry". In: *Journal of Nuclear Medicine* (Mar. 2020), p. jnumed.119.240366. doi hal

[A76] Ayadi, M., Baudier, T., Bouilhol, G., Dupuis, P., Boissard, P., Pinho, R., Krason, A., Rit, S., Claude, L., **Sarrut, D.**, "Mid-position treatment strategy for locally advanced lung cancer: a dosimetric study". In: *The British Journal of Radiology* 93.1110 (2020), p. 20190692. doi hal

[A75] Elia, A., Resch, A., Carlino, A., Bohlen, T., Fuchs, H., Palmans, H., Letellier, V., Ralf, D., Jhonnatan, O., Stock, M., **Sarrut, D.**, Grevillot, L., "The GATE/Geant4 beam model for the MedAustron non-isocentric proton treatments". In: *Physica Medica: European Journal of Medical Physics* 71 (2020), pp. 115–123. doi hal

[A74] Etxebeste, A., Dauvergne, D., Fontana, M., Létang, J. M., Llosá, G., Muñoz, E., Oliver, J., Ros, A., Testa, E., **Sarrut, D.**, "A GATE module for Compton Camera imaging simulation". In: *Physics in Medicine and Biology* 65.5 (2020). doi hal

[A73] Grevillot, L., Boersma, D., Fuchs, H., Aitkenhead, A., Elia, A., Bolsa, M., Winterhalter, C., Vidal, M., Jan, S., Pietrzyk, U., Maigne, L., **Sarrut, D.**, "GATE-RTion: a GATE/Geant4 release for clinical applications in Scanned Ion Beam Therapy". In: *Medical Physics* 47.8 (2020), pp. 3675–3681. doi hal

[A72] **Sarrut, D.**, Krah, N., Letang, J.-M., "Generative Adversarial Networks (GAN) for Compact Beam Source Modelling in Monte Carlo Simulations". In: *Physics in Medicine and Biology* 64.21 (Aug. 2019). doi hal

[A71] Vogin, G., Wambersie, A., Koto, M., Ohno, T., Uhl, M., Fossati, P., Balosso, J., ULICE WP2 working group (incl. D. Sarrut), "A step towards international prospective trials in carbon ion radiotherapy: Investigation of factors influencing dose distribution in the facilities in operation based on a case of skull base chordoma". In: *Radiation Oncology* 14.1 (Feb. 2019), p. 24. doi hal

[A70] Biston, M. C., Zaragori, T., Delcoudert, L., Fargier-Voiron, M., Munoz, A., Gorsse, C., **Sarrut, D.**, Pommier, P., "Comparison of electromagnetic transmitter and ultrasound imaging for intrafraction monitoring of prostate radiotherapy". In: *Radiotherapy and Oncology* 136 (2019), pp. 1–8. doi hal

[A69] Feng, Y., Etxebeste, A., Létang, J. M., **Sarrut, D. M. V.**, "Comparison of ideal parallel-hole gamma camera and Compton camera for prompt-γ imaging". In: *IEEE Transactions on Radiation and Plasma Medical Sciences* 4.4 (2019), pp. 479–488. doi hal

[A68] Kochebina, O., Halty, A., Taleb, J., Kryza, D., Janier, M., Bani, A., Baudier, T., Rit, S., **Sarrut, D.**, "In vivo gadolinium nanoparticle quantification with SPECT / CT". In: *EJNMMI Physics* 6.1 (2019). doi hal

[A67] Kohlhase, N., Wegener, T., Schaar, M., Etxebeste, A., **Sarrut, D.**, Rafecas, M., "Capability of MLEM and OE to Detect Range Shifts with a Compton Camera in Particle Therapy". In: *IEEE Transactions on Radiation and Plasma Medical Sciences* 4.2 (2019), pp. 233–242. doi hal

[A66] Giraudet, A.-L., Cassier, P., Iwao-Fukukawa, C., Garin, G., Badel, J.-N., Kryza, D., Chabaud, S., Gilles-Afchain, L., Clapisson, G., Desuzinges, C., **Sarrut, D.**, Halty, A., Italiano, A., Mori, M., Tsunoda, T., Katagiri, T., Nakamura, Y., Alberti, L., Cropet, C., Baconnier, S., Berge-Montamat, S., Perol, D., Blay, J.-Y., "A first-in-human study investigating biodistribution, safety and recommended dose of a new radiolabeled MAb targeting FZD10 in metastatic synovial sarcoma patients". In: *BMC Cancer* 18.1 (Dec. 2018). doi hal

[A65] **Sarrut, D.**, Krah, N., Badel, J., Létang, J. M., "Learning SPECT detector angular response function with neural network for accelerating Monte-Carlo simulations". In: *Physics in Medicine and Biology* 63.20 (Oct. 2018). doi hal

[A64] Vogin, G., Wambersie, A., Pötter, R., Beuve, M., Combs, S., Magrin, G., Mayer, R., Mock, U., **Sarrut, D.**, Schreiner, T., Fossati, P., Balosso, J., "Concepts and terms for dose/volume parameters in carbon-ion radiotherapy: Conclusions of the ULICE taskforce". In: *Cancer Radiothérapie* 22.8 (Oct. 2018). doi hal

[A63] Verhaegen, F., Dubois, L., Gianolini, S., Hill, M. A., Karger, C. P., Lauber, K., Prise, K. M., **Sarrut, D.**, Thorwarth, D., Vanhove, C., Vojnovic, B., Weersink, R., Wilkens, J. J., Georg, D., "ESTRO ACROP: Technology for precision small animal radiotherapy research: Optimal use and challenges.". In: *Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology* 126 (Mar. 2018), pp. 471–478. doi hal

[A62] Cajgfinger, T., Rit, S., Létang, J., Halty, A., **Sarrut, D.**, "Fixed forced detection for fast SPECT Monte-Carlo simulation". In: *Physics in Medicine & Biology* 63.5 (2018), p. 055011. doi hal

[A61] Halty, A., Badel, J., Kochebina, O., **Sarrut, D.**, "Image-based SPECT calibration based on the evaluation of the Fraction of Activity in the Field of View". In: *EJNMMI physics* 5.1 (2018), p. 11. doi hal

[A60] **Sarrut, D.**, Baudier, T., Ayadi, M., Tanguy, R., Rit, S., "Deformable image registration applied to lung SBRT: Usefulness and limitations.". In: *Physica Medica: European Journal of Medical Physics* 44 (Dec. 2017), pp. 108–112. doi hal

[A59] Costa, G., Bonifacio, D., **Sarrut, D.**, Cajgfinger, T., Bardiès, M., "Optimization of GATE simulations for whole-body planar scintigraphic acquisitions using the XCAT male phantom with 177 Lu-DOTATATE biokinetics in a Siemens Symbia T2". In: *Physica Medica* 42 (Oct. 2017), pp. 292 – 297. doi hal

[A58] **Sarrut, D.**, Badel, J., Halty, A., Kryza, D., Giraudet, A., "3D absorbed dose distribution estimated by Monte-Carlo simulation in radionuclide therapy with a monoclonal antibody targeting synovial sarcoma". In: *European Journal of Nuclear Medicine and Molecular Imaging* 4.1 (2017). doi hal

[A57] **Sarrut, D.**, Halty, A., Badel, J., Ferrer, L., Bardiès, M., "Voxel-based multi-model fitting method for modelling time activity curves in SPECT images". In: *Medical Physics* 44 (2017), pp. 6280–6288. doi hal

[A56] Fargier-Voiron, M., Presles, B., Pommier, P., Munoz, A., Rit, S., **Sarrut, D.**, Biston, M., "Evaluation of a new transperineal ultrasound probe for inter-fraction image-guidance for definitive and post-operative prostate cancer radiotherapy". In: *Physica Medica: European Journal of Medical Physics* 61.4 (2016), pp. 1532–1545. doi hal

[A55] Hilaire, E., **Sarrut, D.**, Peyrin, F., Maxim, V., "Proton therapy monitoring by Compton imaging: influence of the large energy spectrum of the prompt-γ radiation". In: *Physics in medicine and biology* 61.8 (2016), pp. 3127–3147. doi hal

[A54] Huisman, B., Létang, J., Testa, E., **Sarrut, D.**, "Accelerated Prompt Gamma estimation for clinical Proton Therapy simulations". In: *Physics in medicine and biology* 61.21 (2016), pp. 7725–7743. doi hal

[A53] Noblet, C., Chiavassa, S., Smekens, F., **Sarrut, D.**, Passal, V., Suhard, J., Lisbona, A., Paris, F., Delpon, G., "Validation of fast Monte Carlo dose calculation in small animal radiotherapy with EBT3 radiochromic

films". In: *Physics in medicine and biology* 61.9 (2016), pp. 3521–3535. doi hal

[A52] Vidal, M., Marzi, L. D., Szymanowski, H., Guinement, L., Nauraye, C., Hierso, E., Freud, N., Ferrand, R., François, P., **Sarrut, D.**, "Development of an empirical model for calculation of the collimator contamination dose in therapeutic proton beams". In: *Physics in Medicine and Biology* 61.4 (2016), pp. 1532–1545. doi hal

[A51] El Kanawati, W., Létang, J., Dauvergne, D., Pinto, M., **Sarrut, D.**, Testa, E., Freud, N., "Monte Carlo simulation of prompt γ-ray emission in proton therapy using a specific track length estimator.". In: *Physics in medicine and biology* 60 (Oct. 2015), pp. 8067–86. doi hal

[A50] Baldacci, F. .., Mittone, A., Bravin, A., Coan, P., Delaire, F. .., Ferrero, C., Gasilov, S. .., Létang, J., **Sarrut, D.**, Smekens, F., Freud, N., "A track length estimator method for dose calculations in low-energy x-ray irradiations: implementation, properties and performance". In: *Zeitschrift Fur Medizinische Physik* 25.1 (2015), pp. 36–47. doi hal

[A49] Fargier-Voiron, M., Presles, B., Pommier, P., Munoz, A., Rit, S., **Sarrut, D.**, Biston, M., "Ultrasound versus Cone-beam CT image-guided radiotherapy for prostate and post-prostatectomy pretreatment localization". In: *Physica Medica: European Journal of Medical Physics* 31.8 (2015), pp. 997–1004. doi hal

[A48] Fassi, A., Schaerer, J., Riboldi, M., **Sarrut, D.**, Baroni, G., "An image-based method to synchronize cone-beam CT and optical surface tracking". In: *Journal of Applied Clinical Medical Physics* 16.2 (2015), p. 5152. doi hal

[A47] Fassi, A., Seregni, M., Riboldi, M., Cerveri, P., **Sarrut, D.**, Ivaldi, G., Tabarelli, P., Liotta, M., Baroni, G., "Surrogate-driven deformable motion model for organ motion tracking in particle radiation therapy". In: *Physics in Medicine and Biology* 60.4 (2015), pp. 8067–8086. doi hal

[A46] Smekens, F., Létang, J., Noblet, C., Chiavassa, S., Delpon, G., Freud, N., Rit, S., **Sarrut, D.**, "Split exponential track length estimator for Monte-Carlo simulations of small-animal radiation therapy". In: *Physics in Medicine and Biology* 59.24 (Nov. 2014), pp. 7703–7715. doi hal

[A45] **Sarrut, D.**, Bardiès, M., Boussion, N., Freud, N., Jan, S., Létang, J., Loudos, G., Maigne, L., Marcatili, S., Mauxion, T., Papadimitroulas, P., Perrot, Y., Pietrzyk, U., Robert, C., Schaart, D. R., Visvikis, D., Buvat, I., "A review of the use and potential of the GATE Monte Carlo simulation code for radiation therapy and dosimetry applications.". In: *Medical Physics* 41.6 (June 2014), p. 064301. doi hal

[A44] **Sarrut, D.**, Rit, S., Claude, L., Pinho, R., Pitson, G., Bouilhol, G., Lynch, R., "Learning directional relative positions between mediastinal lymph node stations and organs". In: *Medical Physics* 41.6 (June 2014), p. 061905. doi hal

[A43] Fassi, A., Schaerer, J., Fernandes, M., Riboldi, M., **Sarrut, D.**, Baroni, G., "Tumor tracking method based on a deformable 4D CT breathing motion model driven by an external surface surrogate.". In: *International Journal of Radiation Oncology, Biology, Physics* 88 (Jan. 2014), pp. 182–8. doi hal

[A42] Fargier-Voiron, M., Presles, B., Pommier, P., Rit, S., Munoz, A., Liebgott, H., **Sarrut, D.**, Biston, M. .., "Impact of probe pressure variability on prostate localization for ultrasound-based image-guided radiotherapy". In: *Radiotherapy and Oncology* 111.1 (2014). doi hal

[A41] Presles, B., Fargier-Voiron, M., Biston, M. .., Lynch, R., Munoz, A., Liebgott, H., Pommier, P., Rit, S., **Sarrut, D.**, "Semi-automatic registration of 3D transabdominal ultrasound images for patient repositioning during post-prostatectomy radiotherapy". In: *Medical Physics* 41.12 (2014), pp. 122903–1–122903–8. doi hal

[A40] Mittone, A., Baldacci, F., Bravin, A., Brun, E., Delaire, F., Ferrero, C., Gasilov, S., Freud, N., Létang, J., **Sarrut, D.**, Smekens, F., Coan, P., "An efficient numerical tool for dose deposition prediction applied to synchrotron medical imaging and radiation therapy.". In: *Journal of Synchrotron Radiation* 20 (Oct. 2013), pp. 785–92. doi hal

[A39] Robert, C., Fourrier, N., **Sarrut, D.**, Stute, S., Gueth, P., Grevillot, L., Buvat, I., "PET-based dose delivery verification in proton therapy: a GATE based simulation study of five PET system designs in clinical conditions.". In: *Physics in Medicine and Biology* 58.19 (Oct. 2013), pp. 6867–85. doi hal

[A38] Robert, C., Dedes, G., Battistoni, G., Böhlen, T. T., Buvat, I., Cerutti, F., Chin, M. P. W., Ferrari, A., Gueth, P., Kurz, C., Lestand, L., Mairani, A., Montarou, G., Nicolini, R., Ortega, P. G., Parodi, K., Prezado, Y., Sala, P. R., **Sarrut, D.**, Testa, E., "Distributions of secondary particles in proton and carbon-ion therapy: a comparison between GATE/Geant4 and FLUKA Monte Carlo codes". In: *Physics in Medicine and Biology* 58.9 (May 2013), pp. 2879–2898. doi hal

[A37] Lynch, R., Pitson, G., Ball, D., Claude, L., **Sarrut, D.**, "Computed tomographic atlas for the new international lymph node map for lung cancer: A radiation oncologist perspective". In: *Practical Radiation Oncology* 3.1 (Jan. 2013), pp. 54–66. doi hal

[A36] Bouilhol, G., Ayadi, M., Rit, S., Thengumpallil, S., Schaerer, J., Vandemeulebroucke, J., Claude, L., **Sarrut, D.**, "Is abdominal compression useful in lung stereotactic body radiation therapy? A 4DCT and dosimetric lobe-dependent study". In: *Physica Medica* 29.4 (2013), pp. 333–340. doi hal

[A35] Camarasu, S., Glatard, T., Ferreira da Silva, R., Gueth, P., **Sarrut, D.**, Benoit-Cattin, H., "Monte-Carlo Simulation on Heterogeneous Distributed Systems: a Computing Framework with Merging and

Checkpointing Strategies". In: *Future Generation Computer Systems* 29.3 (2013), pp. 728–738. doi hal

[A34] Delmon, V., Rit, S., Pinho, R., **Sarrut, D.**, "Registration of sliding objects using direction dependent B-splines decomposition". In: *Physics in Medicine and Biology* 58.5 (2013), pp. 1303–1314. doi hal

[A33] Gueth, P., Dauvergne, D., Freud, N., Létang, J., Ray, C., Testa, E., **Sarrut, D.**, "Machine learning-based patient specific prompt-gamma dose monitoring in proton therapy". In: *Physics in Medicine and Biology* 58.13 (2013), pp. 4563–77. doi hal

[A32] Jan, S., Frisson, T., **Sarrut, D.**, "GATE simulation of ^{12}C hadrontherapy treatment combined with a PET imaging system for dose monitoring : a feasibility study". In: *IEEE Transaction on Nuclear Sciences* 60.1 (2013), pp. 423–429. doi hal

[A31] Rit, S., Dedes, G., Freud, N., **Sarrut, D.**, Létang, J., "Filtered backprojection proton CT reconstruction along most likely paths". In: *Medical Physics* 40.3 (2013), pp. 031103–9. doi hal

[A30] Fassi, A., Riboldi, M., Baroni, G., Schaerer, J., **Sarrut, D.**, "In Regard to Yang et al.". In: *International Journal of Radiation Oncology Biology Physics* 84.2 (Oct. 2012), p. 304. doi hal

[A29] Grevillot, L., Bertrand, D., Dessy, F., Freud, N., **Sarrut, D.**, "GATE as a GEANT4-based Monte Carlo platform for evaluation of proton pencil beam scanning (PBS) treatment plans". In: *Physics in Medicine and Biology* 57.13 (2012), p. 4223. doi hal

[A28] Pitson, G., Lynch, R., Claude, L., **Sarrut, D.**, "A critique of the IASLC lymph node map: a radiation oncology perspective". In: *Journal of Thoracic Oncology* 7.3 (2012), pp. 478–480. doi hal

[A27] Schaerer, J., Fassi, A., Riboldi, M., Cerveri, P., Baroni, G., **Sarrut, D.**, "Multi-dimensional respiratory motion tracking from markerless optical surface imaging based on deformable mesh registration". In: *Physics in Medicine and Biology* 57.2 (2012), pp. 357–373. doi hal

[A26] Vandemeulebroucke, J., Bernard, O., Rit, S., Kybic, J., Clarysse, P., **Sarrut, D.**, "Automated Segmentation of a Motion Mask to Preserve Sliding Motion in Deformable Registration of Thoracic CT". In: *Medical Physics* 39.2 (2012), pp. 1006–1015. doi hal

[A25] Ayadi, M., Bouilhol, G., Imbert, L., Ginestet, C., **Sarrut, D.**, "[Scan acquisition parameter optimization for the treatment of moving tumors in radiotherapy.]". In: *Cancer radiotherapie : journal de la Societe francaise de radiotherapie oncologique* 15.2 (2011). doi hal

[A24] Grevillot, L., Bertrand, D., Dessy, F., Freud, N., **Sarrut, D.**, "A Monte Carlo pencil beam scanning model for proton treatment plan simulation using GATE/GEANT4". In: *Physics in Medicine and Biology* 56.16 (2011), p. 5203. doi hal

[A23] Grevillot, L., Frisson, T., Maneval, D., Zahra, N., Badel, J., **Sarrut, D.**, "Simulation of a 6 MV Elekta Precise Linac photon beam using GATE / GEANT4". In: *Physics in Medicine and Biology* 56.4 (2011). doi hal

[A22] Jan, S., Benoit, D., Becheva, E., Carlier, T., Cassol, F., Descourt, P., Frisson, T., Grevillot, L., Guigues, L., Maigne, L., Morel, C., Perrot, Y., Rehfeld, N., **Sarrut, D.**, Schaart, D. R., Stute, S., Pietrzyk, U., Visvikis, D., Zahra, N., Buvat, I., "GATE V6: a major enhancement of the GATE simulation platform enabling modelling of CT and radiotherapy". In: *Physics in Medicine and Biology* 56.4 (2011), pp. 881–901. doi hal

[A21] Murphy, K., Ginneken, B. v., Reinhardt, J., Kabus, S., Ding, K., Deng, X., Cao, K., Du, K., Christensen, G., Garcia, V., Vercauteren, T., Ayache, N., Commowick, O., Malandain, G., Glocker, B., Paragios, N., Navab, N., Gorbunova, V., Sporring, J., Bruijne, M. d., Han, X., Heinrich, M., Schnabel, J., Jenkinson, M., Lorenz, C., Modat, M., McClelland, J., Ourselin, S., Muenzing, S., Viergever, M., Nigris, D. D., Collins, D., Arbel, T., Peroni, M., Li, R., Sharp, G., Schmidt-Richberg, A., Ehrhardt, J., Werner, R., Smeets, D., Loeckx, D., Song, G., Tustison, N., Avants, B., Gee, J., Staring, M., Klein, S., Stoel, B., Urschler, M., Werlberger, M., Vandemeulebroucke, J., Rit, S., **Sarrut, D.**, Pluim, J., "Evaluation of Registration Methods on Thoracic CT: The EMPIRE10 challenge". In: *IEEE Trans Med Imaging* 30.11 (2011), pp. 1901–20. doi hal

[A20] Vandemeulebroucke, J., Rit, S., Kybic, J., Clarysse, P., **Sarrut, D.**, "Spatio-Temporal Motion Estimation for Respiratory-Correlated Imaging of the Lungs". In: *Medical Physics* 38.1 (2011). doi hal

[A19] Zahra, N., Frisson, T., Grevillot, L., Lautesse, P., **Sarrut, D.**, "Influence of Geant4 parameters on dose distribution and computation time for carbon ion therapy simulation". In: *Physica Medica: European Journal of Medical Physics* 26.4 (Oct. 2010), pp. 202–206. doi hal

[A18] **Sarrut, D.**, Vandemeulebroucke, J., "B-LUT: Fast and low memory B-spline image interpolation". In: *Comput Meth Prog Bio* 99.2 (Aug. 2010), pp. 172–178. doi hal

[A17] Camarasu-Pop, S., Glatard, T., Moscicki, J. T., Benoit-Cattin, H., **Sarrut, D.**, "Dynamic partitioning of GATE Monte-Carlo simulations on EGEE". In: *Journal of Grid Computing* 8.2 (Mar. 2010), pp. 241–259. doi hal

[A16] Brock, K. K., Deformable Registration Accuracy Consortium, Boldea, V., **Sarrut, D.**, "Results of a Multi-Institution Deformable Registration Accuracy Study (MIDRAS)". In: *Int J Radiat Onc* 76.2 (Feb. 2010), pp. 583–596. doi hal

[A15] Grevillot, L., Frisson, T., Zahra, N., Bertrand, D., Stichelbaut, F., Freud, N., **Sarrut, D.**, "Optimization

of GEANT4 settings for Proton Pencil Beam Scanning simulations using GATE". In: *Nucl Instr Meth Phys Res B* 268 (2010), pp. 3295–3305. doi hal

[A14] Frisson, T., Zahra, N., Lautesse, P., **Sarrut, D.**, "Monte-Carlo based prediction of radiochromic film response for hadrontherapy dosimetry". In: *Nucl Instr Meth Phys Res A* 606.3 (2009), pp. 749–754. doi hal

[A13] Rit, S., **Sarrut, D.**, Desbat, L., "Comparison of Analytic and Algebraic Methods for Motion-Compensated Cone-Beam CT Reconstruction of the Thorax". In: *IEEE Trans Med Imaging* 28.10 (2009), pp. 1513–1525. doi hal

[A12] **Sarrut, D.**, Guigues, L., "Region-oriented CT image representation for reducing computing time of Monte Carlo simulations". In: *Medical Physics* 35.4 (Apr. 2008), pp. 1452–1463. doi hal

[A11] Boldea, V., **Sarrut, D.**, Sharp, G., Jiang, S., "4D-CT lung motion models construction with deformable registration: estimation of motion nonlinearity and hysteresis". In: *Medical Physics* 35.3 (Mar. 2008), pp. 1008–1018. doi hal

[A10] Wu, Z., Rietzel, E., Boldea, V., **Sarrut, D.**, Sharp, G., "Evaluation of deformable registration of patient lung 4DCT with sub-anatomical region segmentations". In: *Medical Physics* 35.2 (Feb. 2008), pp. 775–781. doi hal

[A9] **Sarrut, D.**, Delhay, B., Villard, P., Boldea, V., Beuve, M., Clarysse, P., "A comparison framework for breathing motion estimation methods from 4D imaging". In: *IEEE Trans Med Imaging* 26.12 (2007), pp. 1636–1648. doi hal

[A8] **Sarrut, D.**, "Deformable Registration for Image-Guided Radiation Therapy". In: *Zeitschrift für Medizinische Physik* 16.4 (Dec. 2006), pp. 285–297. doi hal

[A7] **Sarrut, D.**, Perol, D., Pommier, P., Carrie, C., "Radiothérapie avec blocage respiratoire pour les grands insuffisants respiratoires atteints d'un carcinome pulmonaire non à petites cellules (Protocole RESPI 2000) : application à la modélisation des déformations d'organes par recalage déformable". In: *Cancer/radiothérapie Elsevier* 10.6-7 (Nov. 2006), pp. 377–380. doi hal

[A6] Atoui, H., Miguet, S., **Sarrut, D.**, "A Fast Morphing-Based Interpolation For Medical Images: Application To Conformal Radiotherapy". In: *Image Anal Stereol* 25.2 (June 2006), pp. 95–103. hal

[A5] **Sarrut, D.**, Boldea, V., Miguet, S., Ginestet, C., "Simulation of 4D CT images from deformable registration between inhale and exhale breath-hold CT scans". In: *Medical Physics* 33.3 (Mar. 2006), pp. 605–617. doi hal

[A4] Rit, S., **Sarrut, D.**, Boldea, V., Ginestet, C., "Extraction du signal respiratoire à partir de projections cone-beam pour l'imagerie TDM 4D". In: *Traitement du Signal* 23.3-4 (2006), pp. 307–319. hal

[A3] **Sarrut, D.**, Boldea, V., Ayadi, M., Badel, J., Ginestet, C., Clippe, S., "Non-rigid registration method to assess reproducibility of breath-holding with ABC in lung cancer". In: *Int J Radiat Oncol Biol Phys* 61.2 (Feb. 2005), pp. 594–607. doi hal

[A2] Clarysse, P., Frouin, F., Garreau, M., Lalande, A., Rousseau, J., **Sarrut, D.**, Vasseur, C., "Intégration de connaissances et modélisation en imagerie médicale". In: *ITBM-RBM* 25.3 (Sept. 2004), pp. 139–149. doi hal

[A1] Clippe, S., **Sarrut, D.**, Malet, C., Miguet, S., Ginestet, C., Carrie, C., "Patient setup error measurement using 3D intensity-based image registration techniques". In: *Int J Radiat Oncol Biol Phys* 56.1 (Aug. 2003), pp. 259–263. doi hal

Books and book chapters

[B10*] Peyrin, F., Dauvergne, D., Beuf, O., Adam, J.-F., Bernard, O., Beuve, M., Brun, E., Camarasu-Pop, S., Candéias, S., Clarysse, P., Delorme, R., Denis, L., Duchateau, N., Ducros, N., Dumont, E., Elleaume, H., Friboulet, D., Frindel, C., Gallin-Martel, M.-L., Grenier, T., Ladjal, H., Lartizien, C., Létang, J. M., Leporq, B., Liebgott, H., Loffreda, D., Maigne, L., Maxim, V., Merveille, O., Millioz, F., Mitton, D., Momey-Casella, F. Y., Montcel, B., Muleki-Seya, P., Orkisz, M., Pilleul, F., Pittet, P., Ratiney, H., Ravanat, J.-L., Ray, C., Rayet, B., Rit, S., Rodriguez-Lafrasse, C., Sango-Solanas, P., **Sarrut, D.**, Si-Mohamed, S., Sdika, M., Serduc, R., Shariat, B., Testa, É., Vernet, P., Vacavant, A., Varray, F., Viallon, M., Vila, G., *Twelve Years of LabEx PRIMES (2012-2024)*. Zenodo, Feb. 2025. doi hal

[B9] **Sarrut, D.**, Rit, S. (eds.), *Proceedings of the XXth International Conference on the use of Computers in Radiation therapy (ICCR)*. Lyon, France, 2024. hal

[B8*] Bert, J., **Sarrut, D.**, "Monte Carlo simulations for medical and biomedical applications". In: *Biomedical Image Synthesis and Simulation: Methods and Applications*. Elsevier, 2022, pp. 23–53. doi hal

[B7] **Sarrut, D.**, Krah, N., "Artificial Intelligence and Monte Carlo Simulation". In: *Monte Carlo Techniques in Radiation Therapy: Introduction, Source Modelling and Patient Dose Calculations*. Ed. by Verhaegen, F., Seco, J. CRC Press, Oct. 2021, pp. 251–258. doi **[no HAL]**

[B6] **Sarrut, D.**, Ljungberg, M., "Monte Carlo Simulation of Nuclear Medicine Imaging Systems". In: *Handbook*

of Nuclear Medicine and Molecular Imaging for Physicists: Instrumentation and Imaging Procedures, Volume I. Ed. by Ljungberg, M. CRC Press, Oct. 2021, pp. 533–561. doi **[no HAL]**

[B5] Kabus, S., Klinder, T., Murphy, K., Werner, R., **Sarrut, D.**, "Validation and Comparison of Approaches to Respiratory Motion Estimation". In: *4D Modeling and Estimation of Respiratory Motion for Radiation Therapy*. Ed. by Ehrhardt, J., Lorenz, C. Springer Berlin Heidelberg, 2013, pp. 159–183. doi **[no HAL]**

[B4] Rit, S., **Sarrut, D.**, Sonke, J.-J., "Respiratory motion correction in cone-beam CT for image-guided radiotherapy". In: *4D Modeling and Estimation of Respiratory Motion for Radiation Therapy*. Ed. by Ehrhardt, J., Lorenz, C. Springer Berlin Heidelberg, 2013, pp. 319–334. doi hal

[B3] **Sarrut, D.**, Vandemeulebroucke, J., Rit, S., "Intensity-based deformable registration: Introduction and Overview". In: *4D Modeling and Estimation of Respiratory Motion for Radiation Therapy*. Ed. by Ehrhardt, J., Lorenz, C. Springer Berlin Heidelberg, 2013, pp. 103–124. doi hal

[B2*] **Sarrut, D.**, Vandemeulebroucke, J., "Nonparametric: Demons, Diffusion, and Viscous-Fluid Approaches". In: *Image Processing in Radiation Therapy*. Ed. by Brock, K. K. CRC Press, Taylor & Francis Group, 2013, pp. 95–110. doi **[no HAL]**

[B1] Camarasu-Pop, S., Glatard, T., Benoit-Cattin, H., **Sarrut, D.**, "Enabling Grids for GATE Monte-Carlo Radiation Therapy Simulations with the GATE-Lab". In: *Applications of Monte Carlo Method in Science and Engineering*. Ed. by Mordechai, S. InTech Open, Feb. 2011, pp. 35–50. doi **[no HAL]**

Conference proceedings and abstracts

[C247*] Baldau, H., Sanchez-Lajusticia, A., Vergnaud, L., **Sarrut, D.**, "Automated and explainable lesion dosimetry in 177 Lu-PSMA therapy". In: *EANM 2026 – 39th Annual Congress of the European Association of Nuclear Medicine*. Vienna, Austria, Oct. 2026. hal

[C246*] Vergnaud, L., Gasteuil, J., Koulibaly, M., Marage, L., Seutin, E., Contu, S., Badel, J.-N., Giraudet, A.-L., Sanchez-Lajusticia, A., Garcia, C., Deandreis, D., Cras, Y., Anizan, N., Schwartz, P., **Sarrut, D.**, Lamart, S., "Performance de la méthode de Jackson pour la dosimétrie rénale et médullaire au ^{177}Lu-PSMA : une étude multicentrique". In: *2ième congrès RIV*. Nantes, France, Oct. 2026. hal

[C245*] Vergnaud, L., Gasteuil, J., Koulibaly, M., Marage, L., Contu, S., Seutin, E., Badel, J.-N., Giraudet, A.-L., Sanchez-Lajusticia, A., Garcia, C., Deandreis, D., Cras, Y., Anizan, N., Schwartz, P., **Sarrut, D.**, Lamart, S., "Impact of misregistration on parotid gland dosimetry in 177Lu-PSMA therapy: A multicentric study". In: *EANM 2026 – 39th Annual Congress of the European Association of Nuclear Medicine*. Vienna, Austria, Oct. 2026. hal

[C244*] Vergnaud, L., Gasteuil, J., Koulibaly, M., Marage, L., Schiappa, R., Badel, J., Giraudet, A., Sanchez-Lajusticia, A., Garcia, C., Deandreis, D., Cras, Y., Anizan, N., Schwartz, P., **Sarrut, D.**, Lamart, S., "Multicenter evaluation of the Madsen single-time-point method for kidney and bone marrow dosimetry in 177Lu-PSMA therapy: Monte Carlo cross-dose and effective half-life considerations". In: *Phys Med* 149 (Sept. 2026). doi **[no HAL]**

[C243*] Baldau, H., Sanchez-Lajusticia, A., **Sarrut, D.**, Vergnaud, L., "Méthode automatisée pour la dosimétrie des lésions en thérapie par 177Lu-PSMA". In: *SFPM 2026 – 64èmes Journées Scientifiques de la Société Française de Physique Médicale*. Lyon, France, June 2026. hal

[C242*] Vergnaud, L., Gasteuil, J., Koulibaly, M., Marage, L., Schiappa, R., Badel, J.-N., Giraudet, A.-L., Sanchez-Lajusticia, A., Garcia, C., Deandreis, D., Cras, Y., Anizan, N., Schwartz, P., **Sarrut, D.**, Lamart, S., "Fiabilité de la méthode de Madsen pour la dosimétrie rénale et médullaire du 177Lu-PSMA : une étude multicentrique". In: *SFPM 2026 – 64èmes Journées Scientifiques de la Société Française de Physique Médicale*. Lyon, France, June 2026. hal

[C241] Constanza, C., Kaprelian, T., Etxebeste, A., **Sarrut, D.**, "Unrolled MAPEM for SPECT reconstruction". In: *Proceedings of the Symposium on AI and Reconstruction for Biomedical Imaging (AIRBI)*. London, UK, Mar. 2026. hal

[C240*] Constanza, C., Etxebeste, A., **Sarrut, D.**, "Unrolled relaxed algorithm for 3D SPECT reconstruction". In: *IEEE NSS/MIC 2026 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Granada, Spain, 2026. **[no HAL]**

[C239*] Etxebeste, A., **Sarrut, D.**, "Monte Carlo simulation model of the ring CZT based VERITON SPECT-CT system". In: *IEEE NSS/MIC 2026 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Granada, Spain, 2026. **[no HAL]**

[C238*] Hurani, Z., Barrientos, L., Brzezinski, K., Llosa, G., Etxebeste, A., **Sarrut, D.**, "Validation of Compton camera simulations using GATE version 10 through experimental data". In: *IEEE NSS/MIC 2026 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Granada, Spain, 2026. **[no HAL]**

[C237] Maurel-Audry, M., Saut, O., Rio-Sanchez, E., Badel, J.-N., **Sarrut, D.**, Anizan, N., "Development of a deep learning-based automatic segmentation tool for total tumour volume delineation in imaging of

metastatic prostate cancer". In: *2nd Symposium on Molecular Radiotherapy Dosimetry: The future of theragnostics*. Athens, Greece, Nov. 2025. **[no HAL]**

[C236] Mohr, P., Klever, P., Cabello, J., Li, Z., Dao, V., Somsen, J., **Sarrut, D.**, van Sluis, J., Brouwers, A., Lammertsma, A., Ziemons, K., Tsoumpas, C., "Low-Count 89 Zr Imaging Using a Long LSO-Based PET Scanner: A Simulation Study". In: *IEEE NSS/MIC 2025 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. IEEE, Yokohama, Japan, Nov. 2025, pp. 1–1. doi hal

[C235] Rios Sanchez, E., Badel, J.-N., Dieudonné, A., Gröhn, H., Imbert, L., Labour, J., Nuttens, V., Terro, A., Vergnaud, L., Zaragori, T., **Sarrut, D.**, "Correlation Between SPECT/CT-Derived TMTV Metrics and Biological Response in 177Lu-PSMA Therapy: Insights from a Multicentric Study". In: *2nd Symposium on Molecular Radiotherapy Dosimetry: The future of theragnostics*. Athens, Greece, Nov. 2025. **[no HAL]**

[C234*] Rios Sanchez, E., Badel, J.-N., Baudier, T., Dieudonné, A., Gröhn, H., Imbert, L., Labour, J., Nuttens, V., Terro, A., Vergnaud, L., Zaragori, T., **Sarrut, D.**, "Multicentric Validation of Early Quantitative 177Lu-PSMA SPECT/CT for mCRPC Response Assessment". EFOMP SIG 2025, Nov. 2025. hal

[C233] Vergnaud, L., Baudier, T., Badel, J.-N., Lamart, S., **Sarrut, D.**, "Single-time-point dosimetry in vertebrae for 177Lu therapies: does using dose-rate maps improve accuracy?". In: *2nd Symposium on Molecular Radiotherapy Dosimetry: The future of theragnostics*. Athens, Greece, Nov. 2025. hal

[C232] **Sarrut, D.**, Etxebeste, A., Jacquet, M., Létang, J. M., "A Novel Variance Reduction Technique for Efficient Monte Carlo Simulation of SPECT Images". In: *EANM 2025 – 38th Annual Congress of the European Association of Nuclear Medicine*. Barcelona, Spain, Oct. 2025. hal

[C231] Lamart, S., Pignard, A., Badel, J.-N., Baudier, T., Broggio, D., Deandreis, D., Ferrer, L., Franck, D., Garcia, C., Gasteuil, J., Giraudet, A.-L., Humbert, O., Imbert, L., Koulibaly, M., Leygnac, S., Rousseau, C., Rovera, G., **Sarrut, D.**, Schwartz, P., Varmenot, N., Anizan, N., "Lu-PSMA-Dose, a French Retrospective Multicentric Dosimetry Study of ^{177}Lu-PSMA Treatments for Metastatic Castration-Resistant Prostate Cancer". In: *AAPM 2025 – 67th Annual Meeting of the American Association of Physicists in Medicine*. AAPM, Washington, DC, USA, July 2025. hal

[C230*] Badel, J., Toalombo Montero, D., Sunyach, M., Vergnaud, L., **Sarrut, D.**, Mognetti, T., Sanchez Lajusticia, A., Giraudet, A., "Faisabilité d'une dosimétrie cumulative après radiothérapie externe et radiothérapie interne vectorisée au 177Lu-DOTATATE dans les méningiomes réfractaires". In: *Médecine Nucléaire* 49.2 (Mar. 2025), p. 139. doi **[no HAL]**

[C229*] Badel, J., Garcia, C., Diatchenko, V., Varmenot, N., Anizan, N., Broggio, D., Lamart, S., **Sarrut, D.**, Baudier, T., Giraudet, A., "UNIRIV : construction d'une base de données multimodales centralisée pour le traitement du cancer de la prostate métastatique au 177Lu-PSMA". In: *Médecine Nucléaire* 49.2 (Mar. 2025), pp. 104–105. doi **[no HAL]**

[C228] Brzezinski, K., Barrientos, L., Borja-Lloret, M., Casaña, J., Hueso-González, F., Pérez-Curbelo, J., Ros, A., Roser, J., Serna, C., Viegas, R., Badel, J.-N., Etxebeste, A., **Sarrut, D.**, Llosá, G., "MACACO III Compton camera for imaging of targeted alpha therapy using 225 Ac". In: *IEEE NSS/MIC 2024 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. IEEE, Tampa, FL, USA, Oct. 2024, pp. 1–2. doi hal

[C227] Kaprélian, T., Etxebeste, A., **Sarrut, D.**, "Partial Volume Correction on 177 Lu-SPECT sinogram with Deep Learning trained on synthetic data". In: *IEEE NSS/MIC 2024 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Tampa, FL, USA, Oct. 2024. doi hal

[C226] Kochebina, O., **Sarrut, D.**, Arbor, N., Baudier, T., Borys, D., Favaretto, M., Etxebeste, A., Fuchs, H., Gajewski, J., Grevillot, L., Jacquet, M., Jan, S., Kagadis, G. C., Kang, H. G., Kirov, A., Krah, N., Krzemien, W., Lomax, A., Papadimitroulas, P., Pereda, A., Pommranz, C., Resch, A., Roncali, E., Rucinski, A., Winterhalter, C., Maigne, L., "GATE Monte Carlo simulation toolkit for medical physics". In: *EPJ Web Conf.*. Paris, France, Oct. 2024, p. 16002. doi hal

[C225] Rios Sanchez, E., **Sarrut, D.**, Badel, J.-N., "Automated 68Ga-PSMA-PET Total Metabolic Tumor Volume (TMTV) extraction for predicting PSA change in177Lu-PSMA therapy". In: *ECMP 2024 – 5th European Congress of Medical Physics*. Munich, Germany, Oct. 2024, p. 103853 (PP25.01). doi hal

[C224] Vergnaud, L., Badel, J.-N., Giraudet, A.-L., **Sarrut, D.**, "Impact of cross-irradiation on single time-point dosimetry in 177Lu-PSMA therapy". In: *EANM 2024 – 37th Annual Congress of the European Association of Nuclear Medicine*. Hamburg, Germany, Oct. 2024. hal

[C223] Rios Sanchez, E., Vergnaud, L., Imbert, L., Zaragori, T., Gröhn, H., Dieudonné, A., Badel, J.-N., **Sarrut, D.**, "Multicentric whole-body 177Lu-PSMA-SPECT Total Metabolic Tumor Volume (TMTV) extraction for predicting PSA change in 177Lu-PSMA therapy". In: *EANM 2024 – 37th Annual Congress of the European Association of Nuclear Medicine*. Hamburg, Germany, Sept. 2024. hal

[C222] Benzazon, N., Aichi, M. E., Carré, A., de Kermenguy, F., Niyoteka, S., Maury, P., Colnot, J., M'Hamdi, M., Veres, C., Allodji, R., de Vathaire, F., **Sarrut, D.**, Journy, N., Alapetite, C., Grégoire, V., Deutsch, E., Diallo, I., Robert, C., "Deep learning for instantaneous estimation of the out-of-field dose in external beam photon radiotherapy -A proof of concept". In: *ICCR 2024 – XXth International Conference on the*

Use of Computers in Radiation Therapy. Lyon, France, July 2024. hal

[C221] Jacquet, M., Baudier, T., Deutsch, E., Robert, C., **Sarrut, D.**, "Monte Carlo Modeling of Elekta VERSA HD for Out-of-Field Dose Characterization". In: *ICCR 2024 – XXth International Conference on the Use of Computers in Radiation Therapy*. Lyon, France, July 2024. hal

[C220] **Sarrut, D.**, Etxebeste, A., Létang, J.-M., "Monte Carlo photons simulation from alpha-emitter radionuclides". In: *ICCR 2024 – XXth International Conference on the Use of Computers in Radiation Therapy*. Lyon, France, July 2024. hal

[C219] Badel, J.-N., Vergnaud, L., **Sarrut, D.**, Baudier, T., Kryza, D., Giraudet, A.-L., "Clinical dosimetry workflow in RPT clinical trials: Example of the PRAdR trial". In: *1er Congrès RIV*. Lyon, France, June 2024. **[no HAL]**

[C218] Rios Sanchez, E., **Sarrut, D.**, Badel, J.-N., "Automated 68Ga-PSMA-PET Total Metabolic Tumor Volume (TMTV) Extraction for Predicting PSA Change in 177Lu-PSMA Therapy". In: *SFPM 2024 – Journées Scientifiques de la Société Française de Physique Médicale*. Dijon, France, June 2024. hal

[C217] Rios Sanchez, E., **Sarrut, D.**, Badel, J.-N., "Extraction automatisée du volume tumoral métabolique total (TMTV) du 68Ga-PSMA-PET pour prédire le changement de PSA dans la thérapie au 177Lu-PSMA". In: *1er Congrès RIV*. Lyon, France, June 2024. **[no HAL]**

[C216] Vergnaud, L., Badel, J.-N., Giraudet, A.-L., Kryza, D., Mognetti, T., Baudier, T., Rida, H., Dieudonné, A., **Sarrut, D.**, "Etude des performances quantitativesd'une gamma caméra 360° CZT pour les thérapies au 177Lu". In: *1er Congrès RIV*. Lyon, France, June 2024. hal

[C215] Vergnaud, L., Dewaraja, Y. K., Giraudet, A.-L., Badel, J.-N., **Sarrut, D.**, "Réduction et optimisation du nombre d'acquisitions post-injection pour les thérapies au 177 Lu : revue de la littérature". In: *1er congrès RIV*. Lyon, France, June 2024. hal

[C214*] Barrientos, L., Brzezinski, K., Roser, J., Badel, J., Bello, P., Calatayud, J. M., Casaña, J. V., Etxebeste, A., Prado, S., **Sarrut, D.**, Senra, C., Torres-Espallardo, I., Llosá., G., "First Radionuclide Imaging Tests with MACACOIII+ Compton camera". In: *10th Conference on PET, SPECT, and MR Multimodal Technologies, Total Body and Fast Timing in Medical Imaging*. Biodola, Elba, Italy, May 2024. hal

[C213] Barrientos, L., Brzezinski, K., Roser, J., Badel, J., Bello, P., Calatayud, J. M., Casaña, J. V., Etxebeste, A., Prado, S., **Sarrut, D.**, Senra, C., Torres-Espallardo, I., Llosá, G., "Compton cameras for radiopharmaceutical therapy assessment". In: *19th European Molecular Imaging Meeting (EMIM 2024)*. Porto, Portugal, Mar. 2024. hal

[C212] **Sarrut, D.**, "GATE 10: Towards a versatile python-driven Geant4 application for medical physics". In: *The 5th Geant4 International User Conference at the Physics-Medicine-Biology frontier*. Osaka, Japan, Mar. 2024. hal

[C211] Kaprélian, T., **Sarrut, D.**, Etxebeste, A., "Deep-Learning-based Partial Volume Correction in SPECT". In: *EANM 2023 – 36th Annual Congress of the European Association of Nuclear Medicine*. Vienna, Austria, Sept. 2023. hal

[C210] Rios Sanchez, E., **Sarrut, D.**, Badel, J.-N., "Correlating 68Ga-PSMA PET/CT Imaging Features with PSA Variation for Castration-Resistant Prostate Cancer Patients". In: *EANM 2023 – 36th Annual Congress of the European Association of Nuclear Medicine*. Vienna, Austria, Sept. 2023. hal

[C209] Vergnaud, L., Giraudet, A.-L., Paquet, E., Baudier, T., Badel, J.-N., **Sarrut, D.**, "3D Whole Body images for dosimetry of 177Lu-PSMA treatments using a 360° CZT gamma camera". In: *EANM 2023 – 36th Annual Congress of the European Association of Nuclear Medicine*. Vienna, Austria, Sept. 2023. hal

[C208] Kaprélian, T., Etxebeste, A., **Sarrut, D.**, "Towards Deep-Learning Partial Volume Correction for SPECT". In: *Fully3D 2023 – 17th International Meeting on Fully Three-Dimensional Image Reconstruction in Radiology and Nuclear Medicine*. Stony Brook, NY, USA, July 2023. hal

[C207] Robert, A., **Sarrut, D.**, Etxebeste, A., Létang, J. M., Rit, S., "Ability of exponential data consistency conditions to detect motion in SPECT despite other physical effects". In: *Fully3D 2023 – 17th International Meeting on Fully Three-Dimensional Image Reconstruction in Radiology and Nuclear Medicine*. Stony Brook, NY, USA, July 2023, pp. 337–340. hal

[C206] **Sarrut, D.**, "AI-acceleration of Monte Carlo methods in SPECT and PET imaging". In: *AI & Informatics in Nuclear Medecine Symposium*. Groningen, The Netherlands, 2023. **[no HAL]**

[C205*] Nanos, T., Plachouris, D., Papadimitroulas, P., Papathanasiou, N., Vergnaud, L., **Sarrut, D.**, Kagadis, G., "Dosimetry evaluation of 177Lu-DOTATATE for treating mNETs using as pre-treatment guidance 68Ga-DOTATOC PET/CT imaging". In: *Phys Med* 104 (Dec. 2022), p. S13. doi **[no HAL]**

[C204] Vergnaud, L., Robert, A., Parisse Di-Martino, S., Boissard, P., Rit, S., Badel, J.-N., **Sarrut, D.**, "Dosimetric impact of breathing movement compensation in radioembolization". In: *4th European Congress of Medical Physics (ECMP 2022)*. Dublin, Ireland, Aug. 2022. hal

[C203] Vergnaud, L., Giraudet, A.-L., Moreau, A., Salvadori, J., Imperiale, A., Baudier, T., Badel, J.-N., **Sarrut, D.**, "Uncertainties of a 177Lu-DOTATATE dosimetric workflow based on a reduced number of SPECT/CT acquisitions". In: *4th European Congress of Medical Physics (ECMP 2022)*. Dublin, Ireland, Aug. 2022.

hal

[C202*] Vergnaud, L., Giraudet, A.-L., Moreau, A., Salvadori, J., Imperiale, A., Baudier, T., Badel, J.-N., **Sarrut, D.**, "Workflow dosimétrique s'adaptant aux nombre d'acquisitions SPECT/CT disponiblespour les traitements au 177Lu-DOTATATE". In: *Séminaire de Radiothérapie Interne Vectorisée*. Montpellier, France, Mar. 2022. hal

[C201*] Vergnaud, L., Robert, A., Baudier, T., Martino, S. P.-D., Boissard, P., Rit, S., Badel, J.-N., **Sarrut, D.**, "Impact dosimétrique de la compensation des mouvements respiratoires en radioembolisation". In: *Séminaire de Radiothérapie Interne Vectorisée*. Montpellier, France, Mar. 2022. hal

[C200] Abbani, N., Okoli, F., Jaouen, V., Bert, J., **Sarrut, D.**, "Using simulated CBCT images in deep learning methods for real CBCT segmentation". In: *ESTRO 2022 – ESTRO Annual Conference*. Copenhagen, Denmark, 2022. doi hal

[C199] Chaine, Q., Baudier, T., Abbani, N., Costea, M., Biston, M.-C., Gregoire, V., Di-Franco, F., **Sarrut, D.**, "Segmentation automatique par Deep Learning d'images CBCT dansla région tête et cou". In: *SFPM 2022 – 60èmes Journées Scientifiques de la Société Française de Physique Médicale*. Avignon, France, 2022. **[no HAL]**

[C198] Costea, M., Zlate, A., Durand, M., Baudier, T., Gregoire, V., **Sarrut, D.**, Biston, M.-C., "Evaluation of different algorithms for automatic segmentation of head-and-neck lymph nodes on CT images". In: *4th European Congress of Medical Physics (ECMP 2022)*. Dublin, Ireland, 2022. **[no HAL]**

[C197] Costea, M., Zlate, A., Baudier, T., Grégoire, V., **Sarrut, D.**, Biston, M.-C., "Evaluation of different algorithms for automatic segmentation of head-and-neck lymph nodes on CT images". In: *SFPM 2022 – 60èmes Journées Scientifiques de la Société Française de Physique Médicale*. Avignon, France, 2022. **[no HAL]**

[C196] di Franco, F., Baudier, T., Gassa, F., Pommier, P., **Sarrut, D.**, Biston, M.-C., "Time-dependent margins for prostate intrafraction motion during hypofractionated radiotherapy". In: *ESTRO 2022 – ESTRO Annual Conference*. Copenhagen, Denmark, 2022. doi hal

[C195] di Franco, F., Baudier, T., Pommier, P., **Sarrut, D.**, Biston, M.-C., "Ultra-hypofractionated prostate cancer radiotherapy: dosimetric impact of real-time motion and daily anatomical changes". In: *SFPM 2022 – 60èmes Journées Scientifiques de la Société Française de Physique Médicale*. Avignon, France, 2022. **[no HAL]**

[C194] di Franco, F., Baudier, T., Gassa, F., **Sarrut, D.**, Biston, M.-C., "Impact of daily anatomical changes and intrafraction motion on dose distribution during ultra-hypofractionated prostate cancer radiotherapy". In: *4th European Congress of Medical Physics (ECMP 2022)*. Dublin, Ireland, 2022. **[no HAL]**

[C193] Kaprelian, T., Etxebeste, A., Krah, N., Létang, J.-M., Ostromoukhov, V., Coeurjolly, D., **Sarrut, D.**, "Quasi Monte-Carlo Voxelized Source Sampling". In: *MCMA 2022 – International Conference on Monte Carlo Techniques for Medical Applications*. Antwerp, Belgium, 2022. hal

[C192] Krzyzaniak, A., Parisse Di-Martino, S., **Sarrut, D.**, Vergnaud, L., Mognetti, T., Badel, J.-N., "Optimization of a 360° CZT Camera for Dosimetry Planning Step in SIRT Treatment of Liver Cancer and Liver Metastases". In: *EANM 2022 – 35th Annual Congress of the European Association of Nuclear Medicine*. Barcelona, Spain, 2022. hal

[C191] Maxim, V., Muñoz, E., Etxebeste, A., Dauvergne, D., Létang, J.-M., **Sarrut, D.**, Testa, E., "Spectral reconstruction in Compton camera medical imaging". In: *SIAM annual meeting 2022*. Pittsburgh (Pennsylvania, US), 2022. **[no HAL]**

[C190] Plachouris, D., Eleftheriadis, V., Nanos, T., Papadimitroulas, P., Vergnaud, L., Papathanasiou, N., **Sarrut, D.**, Kagadis, G., "A Machine Learning Prognostic Model for the Assessment of 177-Lu-DOTATATE Therapy Using Dose and Radiomics Features Analysis". In: *AAPM 2022 – 64th Annual Meeting of the American Association of Physicists in Medicine*. Washington, DC, USA, 2022. **[no HAL]**

[C189] Saporta, A., Etxebeste, A., Krah, N., Létang, J.-M., **Sarrut, D.**, "Conditional GAN for Monte Carlo SPECT simulation". In: *MCMA 2022 – International Conference on Monte Carlo Techniques for Medical Applications*. Antwerp, Belgium, 2022. hal

[C188] **Sarrut, D.**, Etxebeste, A., Krah, N., Saporta, A., Létang, J.-M., "GAN for source modeling in PET Monte Carlo simulation". In: *MCMA 2022 – International Conference on Monte Carlo Techniques for Medical Applications*. Antwerp, Belgium, 2022. hal

[C187] Vergnaud, L., Robert, A., Parisse Di-Martino, S., Boissard, P., Rit, S., Badel, J.-N., **Sarrut, D.**, "Dosimetric impacts of breathing movement compensation in radioembolization". In: *EANM 2022 – 35th Annual Congress of the European Association of Nuclear Medicine*. Barcelona, Spain, 2022. hal

[C186] Vergnaud, L., Mognetti, T., Baudier, T., Boissard, P., Dieudonné, A., Rida, H., Badel, J.-N., **Sarrut, D.**, "Feasibility of 177Lu quantification with a 360° CZT gamma camera". In: *EANM 2022 – 35th Annual Congress of the European Association of Nuclear Medicine*. Barcelona, Spain, 2022. hal

[C185*] Di Franco, F., Baudier, T., Gassa, F., **Sarrut, D.**, Biston, M.-C. C., "Dosimetric impact of intrafraction motion during moderate hypo-fractionated prostate cancer radiotherapy treatment". In: *3rd European*

Congress of Medical Physics (ECMP 2021). Virtual, June 2021. hal

[C184*] Di Franco, F., Baudier, T., Gassa, F., Pommier, P., **Sarrut, D.**, Biston, M. C., "Evaluation de l'impact dosimétrique des mouvements intrafraction de la prostate durant le traitement de radiothérapie en fonction des marges CTV-PTV utilisées". In: *SFPM 2021 – 59èmes Journées Scientifiques de la Société Française de Physique Médicale*. Rennes, France, June 2021. hal

[C183] Claude, L., Isnardi, V., Schiffler, C., Metzger, S., Martel-Lafay, I., Rit, S., **Sarrut, D.**, Baudier, T., Ayadi, M., "Mid-p strategy versus ITV strategy in locally advanced lung cancer. A randomized phase II study". In: *ESTRO 2021 – ESTRO Annual Conference*. Madrid, Spain, 2021. doi hal

[C182] Costea, M., Grégoire, V., **Sarrut, D.**, Biston, M.-C., "Comparison of segmentation algorithms for organs at risk delineation on head-and-neck CT images". In: *ESTRO 2021 – ESTRO Annual Conference*. Madrid, Spain, 2021. hal

[C181] di Franco, F., Baudier, T., Gassa, F., **Sarrut, D.**, Biston, M.-C., "Dosimetric impact of intra-fraction prostate motion during moderate hypo-fractionated radiation treatment: a population-based study varying CTV-to-PTV margins". In: *SFPM 2021 – 59èmes Journées Scientifiques de la Société Française de Physique Médicale*. Rennes, France, 2021. hal

[C180] Etxebeste, A., Muñoz, E., Dauvergne, D., Létang, J.-M., Borja-Lloret, M., Llosá, G., Maxim, V., **Sarrut, D.**, Testa, E., "Comparison of efficiency and activity recovery coefficients of Compton and Anger cameras in Nuclear Medicine". In: *IEEE NSS/MIC 2021 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Virtual, 2021. hal

[C179] Labour, J., Baudier, T., Parisse-Di Martino, S., Khayi, F., **Sarrut, D.**, Badel, J.-N., "Dosimetric comparison between planning SPECT and monitoring PET for 90Y-radioembolisation". In: *EANM 2021 – 34th Annual Congress of the European Association of Nuclear Medicine*. Virtual, 2021. hal

[C178] Robert, A., Rit, S., Jomier, J., **Sarrut, D.**, "Data-driven motion compensated SPECT reconstruction for liver radioembolization". In: *Fully3D 2021 – 16th International Meeting on Fully Three-Dimensional Image Reconstruction in Radiology and Nuclear Medicine*. Leuven, Belgium (virtual), 2021. hal

[C177] Salvadori, J., Labour, J., Odille, F., Marie, P.-Y., Badel, J.-N., Imbert, L., **Sarrut, D.**, "Monte Carlo simulation of the Vereos digital photon counting PET system with GATE". In: *SFPM 2021 – 59èmes Journées Scientifiques de la Société Française de Physique Médicale*. Rennes, France, 2021. hal

[C176] **Sarrut, D.**, collaboration, O., "Advanced Monte Carlo simulations of emission tomography imaging systems with GATE". In: *Total Body PET*. Edinburgh, UK, 2021. **[no HAL]**

[C175] Vergnaud, L., Giraudet, A.-L., Moreau, A., Baudier, T., Badel, J.-N., **Sarrut, D.**, "Patient-specific dosimetric workflow with a reduced number of time-points for 177Lu treatments". In: *EANM 2021 – 34th Annual Congress of the European Association of Nuclear Medicine*. Virtual, 2021. hal

[C174] Etxebeste, A., Dauvergne, D., Létang, J.-M., Borja-Lloret, M., Llosá, G., Ros, A., **Sarrut, D.**, Testa, E., "Compton camera design optimization for detection efficiency enhancement in Nuclear Medicine". In: *IEEE NSS/MIC 2020 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Virtual, 2020. hal

[C173] Labour, J., Boissard, P., Khayi, F., Veryat Durebex, P., Kryza, D., Parisse-Di Martino, S., Mognetti, T., **Sarrut, D.**, Badel, J.-N., "Yttrium-90 PET imaging with digital photon counting for radioembollization absorbed dose monitoring". In: *EANM 2020 – 33rd Annual Congress of the European Association of Nuclear Medicine*. Virtual, 2020. **[no HAL]**

[C172] Winterhalter, C., Taylor, M., Boersma, D., Elia, A., Guatelli, S., Mackay, R., Kirkby, K., Maigne, L., Ivanchenko, V., Resch, A., **Sarrut, D.**, Sitch, P., Vidal, M., Grevillot, L., Aitkenhead, A., "The importance of Monte Carlo (Geant4) physics settings for clinical proton therapy treatment plans". In: *AAPM 2020 – 62nd Annual Meeting of the American Association of Physicists in Medicine*. Virtual, 2020. **[no HAL]**

[C171*] Etxebeste, A., Fontana, M., Llosa, G., Muñoz Garcia, J. E., Létang, J. M., **Sarrut, D.**, "A dedicated Gate versatile module for Compton camera imaging". In: *ICCR-MCMA 2019 – XIXth International Conference on the Use of Computers in Radiation Therapy and International Conference on Monte Carlo Techniques for Medical Applications*. Montréal, Canada, June 2019. hal

[C170*] Etxebeste, A., Fontana, M., Létang, J. M., Llosá, G., Munoz, E., Oliver, J., Ros, A., Testa, E., **Sarrut, D.**, "A versatile GATE actor to perform simulations of Compton Camera systems". In: *ANIMMA International conference on Advancements in Nuclear Instrumentation Measurement Methods and their Applications*. Portoroz, Slovenia, June 2019. hal

[C169] Ahmad, A., Rasti, P., Frindel, C., **Sarrut, D.**, Rousseau, D., "Deep learning based detection of cells in 3D light sheet fluorescence microscopy". In: *Quantitative BioImaging Conference (QBI 2019)*. Rennes, France, 2019. hal

[C168*] Badel, J.-N., Parisse-Di Martino, S., Khayi, F., Martin, A., Labour, J., **Sarrut, D.**, Kryza, D., Mastier, C., Mognetti, T., "The 3D dosimetry-based treatment planning in clinical routine for SIRT: reality or illusion?". In: *EANM 2019 – 32nd Annual Congress of the European Association of Nuclear Medicine*. Barcelona, Spain, 2019. **[no HAL]**

[C167] Biston, M.-C., Delcoudert, L., Zaragori, T., Munoz, A., **Sarrut, D.**, Pommier, P., "Clinical evaluation of two monitoring devices for prostate radiotherapy treatment". In: *ESTRO 2019 – 38th Annual Meeting of the European Society for Radiotherapy and Oncology (ESTRO 38)*. Milan, Italy, 2019. doi **[no HAL]**

[C166] Etxebeste, A., Fontana, M., Létang, J. M., Llosá, G., Muñoz, E., Oliver, J., Ros, A., Testa, E., **Sarrut, D.**, "A GATE module for Compton Camera imaging simulation". In: *ICCR-MCMA 2019 – XIXth International Conference on the Use of Computers in Radiation Therapy and International Conference on Monte Carlo Techniques for Medical Applications*. Montréal, Canada, 2019. **[no HAL]**

[C165] Feng, Y., Fontana, M., Etxebeste, A., Dauvergne, D., Létang, J., Testa, E., **Sarrut, D.**, Maxim, V., "A maximum-a-posteriori EM reconstruction method based on total variation regularization for Compton camera imaging". In: *PTCOG 58 – 58th Annual Conference of the Particle Therapy Co-Operative Group*. Manchester, UK, 2019. hal

[C164] Feng, Y., Etxebeste, A., Letang, J., **Sarrut, D.**, Maxim, V., "Influence of the model in Compton camera MLEM reconstruction". In: *IEEE NSS/MIC 2019 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Manchester, UK, 2019. **[no HAL]**

[C163] Labour, J., Martin, A., Boissard, P., Baudier, T., **Sarrut, D.**, Badel, J.-N., "Optimization of Yttrium-90 PET/CT acquisition time on a SiPM-PET/CT during selective internal radiation therapy". In: *EANM 2019 – 32nd Annual Congress of the European Association of Nuclear Medicine*. Barcelona, Spain, 2019. **[no HAL]**

[C162] Livingstone, J., Etxebeste, A., Dauvergne, D., Fontana, M., Gallin-Martel, M.-L., Létang, J.-M., Marcatili, S., Morel, C., **Sarrut, D.**, Testa, E., "Fast-prompt gamma imaging for the online monitoring of the ion range in hadron therapy". In: *PTCOG 58 – 58th Annual Conference of the Particle Therapy Co-Operative Group*. Manchester, UK, 2019. hal

[C161] Livingstone, J., Etxebeste, A., Curtoni, S., Dauvergne, D., Fontana, M., Gallin-Martel, M.-L., Létang, J.-M., Marcatilia, S., Morel, C., **Sarrut, D.**, Testa, E., "Ultra fast prompt-gamma imaging for the online monitoring of the ion range in hadron therapy". In: *IEEE NSS/MIC 2019 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Manchester, UK, 2019. hal

[C160] Robert, A., Rit, S., Jomier, J., **Sarrut, D.**, "Respiration-correlated 4D SPECT reconstruction". In: *IEEE NSS/MIC 2019 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Manchester, UK, 2019. **[no HAL]**

[C159] **Sarrut, D.**, Krah, N., Létang, J.-M., "GaGa: GAN for GATE". In: *ICCR-MCMA 2019 – XIXth International Conference on the Use of Computers in Radiation Therapy and International Conference on Monte Carlo Techniques for Medical Applications*. Montréal, Canada, 2019. hal

[C158] **Sarrut, D.**, Baudier, T., Labour, J., Badel, J.-N., "Using phase space for SPECT Monte-Carlo simulation". In: *EANM 2019 – 32nd Annual Congress of the European Association of Nuclear Medicine*. Barcelona, Spain, 2019. **[no HAL]**

[C157] **Sarrut, D.**, Rit, S., Ayadi, M., Claude, L., Baudier, T., Badel, J.-N., Giraudet, A.-L., "Working with radiotherapy from the perspective of data/computer scientist". In: *ESTRO 2019 – 38th Annual Meeting of the European Society for Radiotherapy and Oncology (ESTRO 38)*. Milan, Italy, 2019. doi **[no HAL]**

[C156] Testa, E., Huisman, B., Dauvergne, D., Létang, J. M., **Sarrut, D.**, "Analytical and Monte-Carlo modeling of Multi-Parallel Slit and Knife-Edge Slit Prompt Gamma Cameras". In: *PTCOG 58 – 58th Annual Conference of the Particle Therapy Co-Operative Group*. Manchester, UK, 2019. hal

[C155*] Feng, Y., Etxebeste, A., Létang, J. M., **Sarrut, D.**, Maxim, V., "Total variation and point spread function priors for MLEM reconstruction in Compton camera imaging". In: *IEEE NSS/MIC 2018 – IEEE Nuclear Science Symposium and Medical Imaging Conference (Conference Record)*. Sydney, Australia, Nov. 2018. doi hal

[C154] Badel, J., al., "A French multicenter comparative study of 3D dosimetry software used in therapeutic Nuclear Medicine". In: *EANM 2018 – 31st Annual Congress of the European Association of Nuclear Medicine*. Düsseldorf, Germany, 2018. **[no HAL]**

[C153] Etxebeste, A., Feng, Y., Letang, J., Maxim, V., Testa, E., **Sarrut, D.**, "An extension of the GATE Monte Carlo simulation toolkit to model Compton Camera systems". In: *Third Geant4 International User Conference 2018*. Bordeaux, France, 2018. hal

[C152] Feng, Y., Etxebeste, A., Letang, J., **Sarrut, D.**, Maxim, V., "Total variation regularization for list-mode MLEM reconstruction in Compton camera imaging". In: *IEEE NSS/MIC 2018 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Sydney, Australia, 2018. **[no HAL]**

[C151] Kochebina, O., Halty, A., Taleb, J., Kryza, D., Janier, M., Bani Sadr, A., Mory, C., Bar-Ness, D., Douek, P., Si-Mohamed, S., Baudier, T., Rit, S., **Sarrut, D.**, "In vivo Gd-nanoparticles image-based quantification with SPECT and k-edge spectral CT". In: *EANM 2018 – 31st Annual Congress of the European Association of Nuclear Medicine*. Düsseldorf, Germany, 2018. **[no HAL]**

[C150] **Sarrut, D.**, Krah, N., Badel, J., Létang, J., "Learning SPECT detector response for Monte-Carlo simulations". In: *EANM 2018 – 31st Annual Congress of the European Association of Nuclear Medicine*.

Düsseldorf, Germany, 2018. hal

[C149*] Ayadi-Zahra, M., Baudier, T., Tanguy, R., Gnep, K., Serrand, J., Lapierre, A., Kotzki, L., Brahmi, T., Carrie, C., Rit, S., Claude, L., **Sarrut, D.**, "Does Mid-P CT image decrease inter-observer variability compared to MIP CT image?". In: *Phys Med* 44 (Dec. 2017), pp. 37–38. doi **[no HAL]**

[C148*] Kryza, D., Kochebina, O., Halty, A., Taleb, J., T, D. K., T, M. J., T, A. B. S., Mory, C., Bar-Ness, D., Douek, P., T, T., Rit, S., **Sarrut, D.**, "Quantification of Gd-Nanoparticles Concentration with SPECT and Spectral Photon Counting CT". In: *IEEE NSS/MIC 2017 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Atlanta, GA, USA, Oct. 2017, pp. 1–5. doi hal

[C147*] Huisman, B., **Sarrut, D.**, Testa, E., Krah, N., "Performance of prompt gamma fall-off detection in clinical simulations". 56th annual conférence of the Particle Therapy Co-operative Group - PTCOG 56, May 2017. hal

[C146] Cajgfinger, T., Rit, S., Létang, J., Halty, A., **Sarrut, D.**, "Fixed Forced Detection for fast SPECT Monte-Carlo simulation". In: *MCMA 2017 – International Conference on Monte Carlo Techniques for Medical Applications*. Naples, Italy, 2017. **[no HAL]**

[C145] Cassier, P., Giraudet, A., Iwao-Fukukawa, C., Garin, G., Badel, J., Kryza, D., Chabaud, S., Cropet, C., **Sarrut, D.**, Berge-Montamat, S., Gilles-Afchain, L., Halty, A., Italiano, A., Penel, N., Mori, M., Tsunoda, T., Katagiri, T., Nakamura, Y., Baconnier, S., Perol, D., Blay, J., "Synfrizz: A first-in-human study investigating a radiolabeled monoclonal antibody targeting Frizzled homolog 10 (FZD10) in patients with advanced, pretreated synovial sarcomas". In: *American Society of Clinical Oncology annual meeting 2017*. Chicago, IL, USA, 2017. **[no HAL]**

[C144*] Chauvin, M., **Sarrut, D.**, et al., "OpenDose: a collaborative effort to produce reference dosimetric data with Monte Carlo simulation software". In: *MCMA 2017 – International Conference on Monte Carlo Techniques for Medical Applications*. Naples, Italy, 2017. **[no HAL]**

[C143] Elia, A., Grevillot, L., Carlino, A., Bohlen, T., Fuchs, H., Stock, M., **Sarrut, D.**, "Monte Carlo modeling of a proton fixed beam line featuring non-isocentric PBS treatment capabilities". In: *PTCOG 56 – 56th Annual Conference of the Particle Therapy Co-Operative Group*. Yokohama, Japan, 2017. hal

[C142] Elia, A., Grevillot, L., Carlino, A., Bohlen, T., Fuchs, H., Stock, M., **Sarrut, D.**, "Monte Carlo modeling of non-isocentric proton pencil beam scanning treatments". In: *ESTRO 2017 – 36th Annual Meeting of the European Society for Radiotherapy and Oncology (ESTRO 36)*. Vienna, Austria, 2017. doi **[no HAL]**

[C141*] Giraudet, A.-L., Cassier, P., Garin, G., Badel, J.-N., Baconnier, S., **Sarrut, D.**, Kryza, D., Iwao-Fukukawa, C., Nakamura, Y., Halty, A., Pérol, D., Blay, J.-Y., "Synfrizz: a first in man study investigating the biodistribution, the safety and optimal recommended dose of a new radiolabeled monoclonal antibody targeting Frizzled homolog 10 (FZD10) in patients with relapsed or refractory non resectable synovial sarcomas". In: *Eur J Nucl Med Mol Imaging* 44.suppl 2 (2017). **[no HAL]**

[C140] **Sarrut, D.**, Halty, A., Badel, J., Ferrer, L., Bardiès, M., "Voxel-based multi-model fitting method for modelling time activity curves in SPECT images". In: *EANM 2017 – 30th Annual Congress of the European Association of Nuclear Medicine*. Vienna, Austria, 2017. **[no HAL]**

[C139*] Pommier, P., Fargier-Voiron, M., Delcoudert, L., Gorsse, C., Munoz, A., **Sarrut, D.**, Biston, M.-C., "Radiothérapie guidée par l'imagerie ultrasons pour les cancers de la prostate : repositionnement et suivi des mouvements pendant la séance par l'échographie transpérinéale". In: *Cancer/Radiothérapie* 20.6-7 (Oct. 2016), p. 737. doi **[no HAL]**

[C138*] Fassi, A., Tagliabue, E., Tirindelli, M., **Sarrut, D.**, Riboldi, M., Baroni, G., "Respiratory motion models from Cone-Beam CT for lung tumour tracking". In: *Radiother Oncol* 119 (Apr. 2016), p. S424. doi **[no HAL]**

[C137*] Letang, J., El Kanawati, W., Dauvergne, D., Pinto, M., **Sarrut, D.**, Testa, E., Freud, N., "Monte Carlo simulation of prompt-γ emission in proton therapy using a track length estimator". In: *ICTR-PHE 2016 – International Conference on Translational Research in Radio-Oncology and Physics for Health in Europe*. Geneva, Switzerland, Feb. 2016. hal

[C136*] **Sarrut, D.**, "Recalage déformable en radiothérapie guidée par l'image". In: *1er Congrès National d'Imagerie du Vivant (CNIV)*. Paris, France, Feb. 2016. hal

[C135] Elia, A., Grevillot, L., Carlino, A., Stock, M., Fuchs, H., Bohlen, T., Vatnitsky, S., **Sarrut, D.**, "Monte Carlo proton beam modeling for the MedAustron fixed beam lines". In: *PTCOG 55 – 55th Annual Conference of the Particle Therapy Co-Operative Group*. Prague, Czech Republic, 2016. **[no HAL]**

[C134] Fargier-Voiron, M., Pommier, P., Rit, S., **Sarrut, D.**, Biston, M., "Monitoring of intrafraction prostate motion with 4D ultrasound IGRT device". In: *ESTRO 2016 – 35th Annual Meeting of the European Society for Radiotherapy and Oncology (ESTRO 35)*. Turin, Italy, 2016. **[no HAL]**

[C133] Halty, A., Badel, J., Kryza, D., Giraudet, A., **Sarrut, D.**, "Image-based method for estimation of global calibration factor for SPECT images". In: *EANM 2016 – 29th Annual Congress of the European Association of Nuclear Medicine*. Barcelona, Spain, 2016. **[no HAL]**

[C132] Huisman, B., Letang, J., Testa, E., **Sarrut, D.**, "Accelerated Prompt Gamma estimation for clinical Proton

Therapy simulations". In: *PTCOG 55 – 55th Annual Conference of the Particle Therapy Co-Operative Group*. Prague, Czech Republic, 2016. hal

[C131] **Sarrut, D.**, Biston, M., "A. Fassi and E. Tagliabue and M. Tirindelli and Sarrut, D. and M. Riboldi and G. Baroni". In: *ESTRO 2016 – 35th Annual Meeting of the European Society for Radiotherapy and Oncology (ESTRO 35)*. Turin, Italy, 2016. **[no HAL]**

[C130] **Sarrut, D.**, Halty, A., Badel, J., Kryza, D., Giraudet, A., "In-silico comparison of patient absorbed dose from various radionuclides in targeted radionuclides therapy". In: *ICCR 2016 – XVIIIth International Conference on the Use of Computers in Radiation Therapy*. London, UK, 2016. **[no HAL]**

[C129*] Guillet, L., Fargier-Voiron, M., **Sarrut, D.**, Biston, M.-C., "Evaluation of intrafraction motions with a transperineal ultrasound imaging system: Dosimetric impact for prostate cancer". In: *Phys Med* 31 (Nov. 2015), pp. e25–e26. doi **[no HAL]**

[C128*] Abdouni, A., Presles, B., Fargier-Voiron, M., Rit, S., **Sarrut, D.**, "Development of 2D+T tracking algorithm in ultrasound images for radiotherapy". In: *37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*. Milan, Italy, Aug. 2015, pp. 2916–2919. doi **[no HAL]**

[C127*] Fargier-Voiron, M., Guillet, L., Pommier, P., **Sarrut, D.**, Biston, M.-C., "Repositioning and Monitoring of Prostate Cancer Radiotherapy with a New 4D Ultrasound Intra-Modality IGRT Device". In: *Med Phys* 42.6Part28 (June 2015), pp. 3560–3560. doi **[no HAL]**

[C126*] Presles, B., Fargier-Voiron, M., Alessandrini, M., Biston, M.-C., Pommier, P., Rit, S., **Sarrut, D.**, Liebgott, H., "Realistic Simulations for the Evaluation of Monomodal Registration Algorithms of 3D Pelvic Ultrasound Images". In: *2015 ICU International Congress on Ultrasonics*. Elsevier, Metz, France, May 2015, pp. 1169–1172. doi hal

[C125*] Fargier-Voiron, M., Presles, B., Pommier, P., Rit, S., **Sarrut, D.**, Biston, M.-C., "Ultrasound image guided radiotherapy for prostate cancer using a transperineal probe". In: *ESTRO 2015 – 3rd ESTRO Forum*. Barcelona, Spain, Apr. 2015, pp. S527 (PO–0987). doi hal

[C124*] Fassi, A., Ciardo, D., Riboldi, M., **Sarrut, D.**, Baroni, G., "Improving the clinical applicability of markerless lung tumour tracking with contrast-enhanced kV imaging". In: *ESTRO 2015 – 3rd ESTRO Forum*. Barcelona, Spain, Apr. 2015, pp. S266–S267 (OC–0549). doi hal

[C123*] Noblet, C., Chiavassa, S., **Sarrut, D.**, Smekens, F., Paris, F., Lisbona, A., Delpon, G., "A new CT based tissue automatic segmentation method for absorbed dose calculation in preclinical radiation therapy". In: *ESTRO 2015 – 3rd ESTRO Forum*. Barcelona, Spain, Apr. 2015, pp. S785–S786 (EP–1452). doi hal

[C122] **Sarrut, D.**, Badel, J., Halty, A., Kryza, D., Giraudet, A., "3D patient absorbed dose estimation of monoclonal antibody targeting synovial sarcoma". In: *EANM 2015 – 28th Annual Congress of the European Association of Nuclear Medicine*. Hamburg, Germany, 2015. **[no HAL]**

[C121*] Bolsa Ferruz, M., Fargier-Voiron, M., Presles, B., Pommier, P., **Sarrut, D.**, Biston, M.-C., "Adaptation of treatment margins for hypofractionated radiotherapy of prostate cancer". In: *Phys Med* 30 (Dec. 2014), pp. e123–e124. doi **[no HAL]**

[C120*] Fargier-Voiron, M., Bolsa-Ferruz, M., Presles, B., Pommier, P., Munoz, A., Rit, S., **Sarrut, D.**, Biston, M.-C., "Feasibility of image guided radiotherapy based on ultrasound modality for prostate inter and intra fraction motion". In: *Phys Med* 30 (Dec. 2014), p. e123. doi **[no HAL]**

[C119*] Badel, J.-N., Giraudet, A.-L., **Sarrut, D.**, "A novel monoclonal antibody Yttrium-90-labeled for internal radionuclide therapy of relapsed unresectable synovial-sarcomas: targeting and dosimetry". In: *9ème journée scientifique du CLARA*. Lyon, France, June 2014. hal

[C118*] Fargier-Voiron, M., Bolsa Ferruz, M., Presles, B., Pommier, P., Rit, S., **Sarrut, D.**, Biston, M.-C., "Faisabilité de la radiothérapie guidée par une imagerie ultrasonore inter- et intra-fraction pour le traitement du cancer de la prostate". In: *9ème journée scientifique du CLARA*. Lyon, France, June 2014. hal

[C117*] Hilaire, E., Lojacono, X., **Sarrut, D.**, Peyrin, F., Maxim, V., "Compton imaging of prompt-gamma radiation in proton therapy: influence of the attenuation in the volume and of the detector performances". In: *9ème journée scientifique du CLARA*. Lyon, France, June 2014. hal

[C116*] Presles, B., Fargier-Voiron, M., Biston, M.-C., Lynch, R., Munoz, A., Liebgott, H., Pommier, P., Rit, S., **Sarrut, D.**, "Recalage automatique d'images ultrasonores tridimensionnelles transabdominales pour le repositionnement inter-séances de patients traités par radiothérapie ayant subis une prostatectomie radicale". In: *9ème journée scientifique du CLARA*. Lyon, France, June 2014. hal

[C115*] Fassi, A., Seregni, M., Riboldi, M., Cerveri, P., **Sarrut, D.**, Baroni, G., "Intra-fraction tumor tracking based on a surrogate-driven 4D CT motion model in particle radiation therapy". In: *ICTR-PHE 2014 – International Conference on Translational Research in Radio-Oncology and Physics for Health in Europe*. Geneva, Switzerland, Feb. 2014, p. S34. hal

[C114] Ayadi-Zahra, M., Bouilhol, G., Krason, A., Rit, S., Dupuis, P., Claude, L., **Sarrut, D.**, "Dosimetric analysis of mid-position vs ITV conformational plans for locally advanced NSCLC. Preliminary results". In: *ESTRO 2014 – 33rd Annual Meeting of the European Society for Radiotherapy and Oncology (ESTRO*

33). Vienna, Austria, 2014. doi hal

[C113] Bouilhol, G., Ayadi, M., Pinho, R., Rit, S., **Sarrut, D.**, "Motion artifact detection in four-dimensional computed tomography images". In: *Journal of Physics: Conference Series*. IOP Publishing, Melbourne, Australia, 2014, p. 012024. doi hal

[C112] Delmon, V., Vandemeulebroucke, J., Pinho, R., Oliva, M., **Sarrut, D.**, Rit, S., "In-room breathing motion estimation from limited projection views using a sliding deformation model". In: *ICCR 2013 – XVIIth International Conference on the Use of Computers in Radiation Therapy*. Melbourne, Australia, 2014, p. 012026. doi hal

[C111] Fargier-Voiron, M., Presles, B., Pommier, P., Rit, S., Munoz, A., Liebgott, H., **Sarrut, D.**, Biston, M., "Impact of probe pressure variability on prostate localization for ultrasound-based image-guided radiotherapy". In: *ESTRO 2014 – 33rd Annual Meeting of the European Society for Radiotherapy and Oncology (ESTRO 33)*. Vienna, Austria, 2014. doi hal

[C110] Fassi, A., Gerosa, E., Riboldi, M., **Sarrut, D.**, Baroni, G., "External-internal correlation models built from Cone-Beam CT for intrafraction tumor tracking". In: *ESTRO 2014 – 33rd Annual Meeting of the European Society for Radiotherapy and Oncology (ESTRO 33)*. Vienna, Austria, 2014. doi hal

[C109] Hilaire, E., Robert, C., Lojacono, X., **Sarrut, D.**, Buvat, I., Peyrin, F., Maxim, V., "Compton imaging in proton therapy: reconstructed image of the simulated prompt-γ distribution". In: *ICTR-PHE 2014 – International Conference on Translational Research in Radio-Oncology and Physics for Health in Europe*. Geneva, Switzerland, 2014, p. S43. hal

[C108] Hilaire, E., **Sarrut, D.**, Peyrin, F., Maxim, V., "Compton imaging of prompt-γ radiation in proton therapy: simulation of the influence of the detector response and of the patient attenuation". In: *IEEE NSS/MIC 2014 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Seattle, WA, USA, 2014. **[no HAL]**

[C107] Riboldi, M., Bert, C., Parodi, K., **Sarrut, D.**, Baroni, G., ""4D" imaging for motion". In: *ESTRO 2014 – 33rd Annual Meeting of the European Society for Radiotherapy and Oncology (ESTRO 33)*. Vienna, Austria, 2014. hal

[C106] Rit, S., Romero, E., Vila-Oliva, M., Brousmiche, S., **Sarrut, D.**, Létang, J., Freud, N., "Simulation of x-ray images from the planning CT for online correction of scatter in cone-beam CT". In: *ESTRO 2014 – 33rd Annual Meeting of the European Society for Radiotherapy and Oncology (ESTRO 33)*. Vienna, Austria, 2014. doi hal

[C105] Rit, S., Vila Oliva, M., Brousmiche, S., Labarbe, R., **Sarrut, D.**, Sharp, G., "The Reconstruction Toolkit (RTK), an open-source cone-beam CT reconstruction toolkit based on the Insight Toolkit (ITK)". In: *ICCR 2013 – XVIIth International Conference on the Use of Computers in Radiation Therapy*. Melbourne, Australia, 2014, p. 012079. doi hal

[C104] **Sarrut, D.**, Vandemeulebroucke, J., Bouilhol, G., Pinho, R., Delmon, V., Rit, S., "Open source tools for validation of deformable registration". In: *ESTRO 2014 – 33rd Annual Meeting of the European Society for Radiotherapy and Oncology (ESTRO 33)*. Vienna, Austria, 2014. doi hal

[C103] Spinczyk, D., Blanc, R., Rit, S., **Sarrut, D.**, Melodelima, D., "Estimation of respiratory breathing signal from 2D US sequences and 4DCT of the liver". In: *IEEE Ultrasonics Symposium (IUS)*. Chicago, IL, USA, 2014. doi hal

[C102*] Bert, J., Dubois, A., Jan, S., Gueth, P., Garrido, E., Benoit, D., **Sarrut, D.**, El Bitar, Z., Cuplov, V., Boursier, Y., Brasse, D., Buvat, I., Morel, C., Visvikis, D., "Hybrid CPU/GPU GATE: towards GATE V7". In: *Geant4 2013: International User Conference at the Physics-Medicine-Biology Frontier*. Bordeaux, France, Oct. 2013. hal

[C101*] Fargier-Voiron, M., Presles, B., Munoz, A., Debeaux, J., Rit, S., **Sarrut, D.**, Biston, M.-C., "Evaluation of an ultrasound-based imaging system for pelvic cancer localization in radiotherapy". In: *Phys Med* 29 (June 2013), p. e3. doi **[no HAL]**

[C100*] Gueth, P., Dauvergne, D., Freud, N., Létang, J.-M., Ray, C., Testa, E., **Sarrut, D.**, "Machine-learning-based patient specific prompt-gamma dose monitoring in protontherapy". In: *PTCOG 52 – 52nd Annual Conference of the Particle Therapy Co-Operative Group*. Essen, Germany, June 2013. hal

[C99*] Bert, J., Perez-Ponce, H., Jan, S., El Bitar, Z., Gueth, P., Cuplov, V., Chekatt, H., Benoit, D., **Sarrut, D.**, Boursier, Y., Brasse, D., Buvat, I., Morel, C., Visvikis, D., "Hybrid GPU/CPU modules for GATE plateform: imaging and therapy applications". In: *Recherche en Imagerie et Technologies pour la Santé*. Bordeaux, France, 2013. hal

[C98] Blanc, R., Melodelima, D., Rit, S., Rivoire, M., **Sarrut, D.**, "Towards 4DCT-US image fusion for liver motion monitoring". In: *IEEE International Ultrasonics Symposium (IUS)*. Prague, Czech Republic, 2013. doi hal

[C97] Fassi, A., Schaerer, J., Fernandes, M., Riboldi, M., **Sarrut, D.**, Baroni, G., "Tumour motion tracking technique based on dynamic surface scanning and 4D CT breathing motion model". In: *ESTRO 2013 – 2nd ESTRO Forum*. Geneva, Switzerland, 2013. doi **[no HAL]**

[C96*] Noblet, C., Chiavassa, S., **Sarrut, D.**, Paris, F., Delpon, G., "Dosimetric impact of low energies (kV) in context of preclinical research in radiation therapy". In: *Phys Med* 28 (June 2012), p. S7. doi **[no HAL]**

[C95*] Bouilhol, G., Rit, S., Ayadi, M., **Sarrut, D.**, "Margin calculation for temporally asymmetric respiratory motion". In: *Radiother Oncol* 103 (May 2012), p. S157. doi **[no HAL]**

[C94*] Rit, S., Pinho, R., Bouilhol, G., Ayadi, M., Biston, M.-C., Claude, L., **Sarrut, D.**, "Phase II clinical trial comparing mid-position with internal target volume treatment planning". In: *Radiother Oncol* 103 (May 2012), pp. S308–S309. doi **[no HAL]**

[C93] Bert, J., Perez-Ponce, H., Jan, S., Bitar, Z. E., Gueth, P., Cuplov, V., Chekatt, H., Benoit, D., **Sarrut, D.**, Boursier, Y., Brasse, D., Buvat, I., Morel, C., Visvikis, D., "Hybrid GATE: A GPU/CPU implementation for imaging and therapy applications". In: *IEEE NSS/MIC 2012 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Anaheim, CA, USA, 2012. doi hal

[C92] Gueth, P., Grevillot, L., Dauvergne, D., Freud, N., Létang, J., Ray, C., TEsta, E., **Sarrut, D.**, "Gate simulation of a complete proton treatment combined with prompt-gamma monitoring". In: *IEEE NSS/MIC 2012 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Anaheim, CA, USA, 2012. hal

[C91] Gueth, P., Testa, E., Létang, J., Freud, N., **Sarrut, D.**, "Perturbation detection using prompt gamma monitoring in protontherapy". In: *PTCOG 51 – 51st Annual Conference of the Particle Therapy Co-Operative Group*. Seoul, South Korea, 2012. **[no HAL]**

[C90] Rit, S., Freud, N., **Sarrut, D.**, Létang, J., "Distance-driven binning for proton CT filtered backprojection along most likely paths". In: *The Second International Conference on Image Formation in X-Ray Computed Tomography*. Salt Lake City, Utah, USA, 2012. hal

[C89] Robert, C., Fourrier, N., Gueth, P., Grevillot, L., **Sarrut, D.**, Buvat, I., "PET-based dose delivery verification in hadrontherapy: simulation study of PET system designs in realistic clinical conditions". In: *IEEE NSS/MIC 2012 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Anaheim, CA, USA, 2012. hal

[C88*] Robert, C., Dedes, G., Battistoni, G., Lestand, L., Gueth, P., Prezado, Y., Testa, E., Montarou, G., **Sarrut, D.**, Buvat, I., "Evaluation of Monte Carlo codes for dose monitoring using PET and prompt gamma imaging in proton therapy". In: *J Nucl Med* 53.supplement 1 (2012), p. 2261. **[no HAL]**

[C87] **Sarrut, D.**, Claude, L., Rit, S., Pinho, R., Pitson, G., Lynch, R., "Investigating mediastinal lymph node stations segmentation on thoracic CT following experts guidelines". In: *MICCAI, Proceedings of the First Workshop on Image-Guidance and Multimodal Dose Planning in Radiation Therapy*. Nice, France, 2012. hal

[C86] Pinho, R., Delmon, V., Vandemeulebroucke, J., Rit, S., **Sarrut, D.**, "Keuhkot: a method for lung segmentation". In: *MICCAI, Proceedings of the Fourth International Workshop on Pulmonary Image Analysis*. Toronto, Canada, Sept. 2011, pp. 225–232. hal

[C85] Rit, S., Pinho, R., Delmon, V., Pech, M., Bouilhol, G., Schaerer, J., Navalpakkam, B., Vandemeulebroucke, J., Seroul, P., **Sarrut, D.**, "VV, a 4D slicer". In: *MICCAI, Proceedings of the Fourth International Workshop on Pulmonary Image Analysis*. Toronto, Canada, Sept. 2011, pp. 171–175. hal

[C84*] Bouilhol, G., Rit, S., Ayadi, M., Pinho, R., Claude, L., **Sarrut, D.**, "Mid-position strategy for moving lung tumors: methodology and issues". In: *Phys Med* 27 (June 2011), p. S12. doi **[no HAL]**

[C83*] Tiv, P., Bouilhol, G., Ayadi, M., Ginestet, C., **Sarrut, D.**, "Lung 4D Computed Tomography: movement artefacts and consequences". In: *Phys Med* 27 (June 2011), p. S13. doi **[no HAL]**

[C82*] Delmon, V., Rit, S., Pinho, R., **Sarrut, D.**, "Direction dependent B-splines decomposition for the registration of sliding objects". In: *Proceedings of the Fourth International Workshop on Pulmonary Image Analysis*. Toronto, Canada, 2011, p. 45–55. hal

[C81] Fassi, A., Schaerer, J., Riboldi, M., **Sarrut, D.**, Baroni, G., "A novel CT-based contrast enhancement technique for markerless lung tumor tracking in X-ray projection images". In: *ESTRO 2011 – ESTRO Anniversary Conference (ESTRO 30)*. Elsevier, London, UK, 2011, p. S217. **[no HAL]**

[C80] Grevillot, L., Bertrand, D., Dessy, F., Freud, N., **Sarrut, D.**, "A Monte Carlo Pencil Beam Scanning model for proton TPS Quality Assurance using GATE/GEANT4". In: *PTCOG 50 – 50th Annual Conference of the Particle Therapy Co-Operative Group*. Philadelphia, PA, USA, 2011. **[no HAL]**

[C79] Gueth, P., Camarasu-Pop, S., Glatard, T., Grevillot, L., **Sarrut, D.**, "PBS proton treatment plan simulation with the GATE-Lab". In: *PTCOG 50 – 50th Annual Conference of the Particle Therapy Co-Operative Group*. Philadelphia, PA, USA, 2011. hal

[C78] Lazaro-Ponthus, D., Guérin, L., Batalla, A., Frisson, T., **Sarrut, D.**, "Commissioning of penelope and GATE monte carlo models for 6 and 18 MV photon beams from the siemens artiste linac". In: *ESTRO 2011 – ESTRO Anniversary Conference (ESTRO 30)*. Elsevier, London, UK, 2011, p. S515. doi hal

[C77] Schaerer, J., Fassi, A., Riboldi, M., Baroni, G., **Sarrut, D.**, "Time-consistent parametrization from dynamic optical surface detection for respiratory motion recovery in radiation oncology". In: *ESTRO 2011 – ESTRO Anniversary Conference (ESTRO 30)*. Elsevier, London, UK, 2011, p. S454. **[no HAL]**

[C76] Vidal, M., De Marzi, L., Szymanowski, H., Nauraye, C., Hierso, E., Freud, N., François, P., **Sarrut, D.**, "How to minimize and model the collimator scatter in Double Scattering and Uniform Scanning.". In: *PTCOG 50 – 50th Annual Conference of the Particle Therapy Co-Operative Group*. Philadelphia, PA, USA, 2011. **[no HAL]**

[C75] Vidal, M., De Marzi, L., Szymanowski, H., Nauraye, C., Grevillot, L., Hierso, E., Ferrand, R., Freud, N., **Sarrut, D.**, "Modèle analytique de prise en compte de la contamination due au collimateur en protonthérapie : Conséquences sur le calcul de dose.". In: *SFPM 2011 – 50èmes Journées Scientifiques de la Société Française de Physique Médicale*. Nantes, France, 2011. doi **[no HAL]**

[C74*] Bouilhol, G., Arnaud, A., Lesseur, J., Ayadi, M., **Sarrut, D.**, Claude, L., "Interobserver Variability in NSCLC Target Delineation for Stereotactic Body Radiation Therapy: A Four-dimensional Analysis". In: *Int J Radiat Oncol Biol Phys* 78.3 (Nov. 2010), p. S790. doi **[no HAL]**

[C73] Bouilhol, G., Ayadi, M., Schaerer, J., Claude, L., **Sarrut, D.**, "Is the Use of An Abdominal Compression Relevant in Lung Stereotactic Body Radiation Therapy?"". In: *ICCR 2010 – XVIth International Conference on the Use of Computers in Radiation Therapy*. Amsterdam, The Netherlands, 2010. **[no HAL]**

[C72] Grevillot, L., Frisson, T., Zahra, N., Bertrand, D., Stichelbaut, F., Freud, N., **Sarrut, D.**, "Optimization of GATE/Geant4 settings for Proton Pencil Beam Scanning simulations towards TPS Quality Assurance". In: *PTCOG 49 – 49th Annual Conference of the Particle Therapy Co-Operative Group*. Gunma, Japan, 2010. **[no HAL]**

[C71] Grèzes-Besset, L., Schaerer, J., Clarysse, P., **Sarrut, D.**, "Fluoroscopic Block-Matching-based mean position traecking of respiratory motion for lung cancer radiotherapy". In: *ESTRO 2010 – 29th Annual Meeting of the European Society for Radiotherapy and Oncology (ESTRO 29)*. Barcelona, Spain, 2010, pp. S5–656–S654–Sup1. **[no HAL]**

[C70*] Grèzes-Besset, L., Schaerer, J., Clarysse, P., **Sarrut, D.**, "Apparent motion clustering on Cone-Beam fluoroscopic images for thorax tracking". In: *ICCR 2010 – XVIth International Conference on the Use of Computers in Radiation Therapy*. Amsterdam, The Netherlands, 2010. **[no HAL]**

[C69] Rit, S., Vandemeulebroucke, J., **Sarrut, D.**, Sonke, J. J., "B-Spline Parametrization of the Temporal Dimension for Respiratory Motion Estimation". In: *ESTRO 2010 – 29th Annual Meeting of the European Society for Radiotherapy and Oncology (ESTRO 29)*. Elsevier, Barcelona, Spain, 2010, pp. S510–1493. **[no HAL]**

[C68*] Rit, S., **Sarrut, D.**, "Deformable image registration of cone-beam projections". In: *ICCR 2010 – XVIth International Conference on the Use of Computers in Radiation Therapy*. Amsterdam, The Netherlands, 2010. **[no HAL]**

[C67] **Sarrut, D.**, Vandemeulebroucke, J., Rit, S., "Advances in Deformable Image Registration of Thoracic 4D CT". In: *ESTRO 2010 – 29th Annual Meeting of the European Society for Radiotherapy and Oncology (ESTRO 29)*. Elsevier, Barcelona, Spain, 2010, p. S188. hal

[C66] Vandemeulebroucke, J., Bernard, O., Kybic, J., Clarysse, P., **Sarrut, D.**, "Automatic motion mask extraction for deformable registration of the lungs". In: *ICCR 2010 – XVIth International Conference on the Use of Computers in Radiation Therapy*. Amsterdam, The Netherlands, 2010. **[no HAL]**

[C65] Vandemeulebroucke, J., Rit, S., Schaerer, J., **Sarrut, D.**, "Deformable image registration with automated motion-mask extraction". In: *Medical Image Analysis for the Clinic: A Grand Challenge 2010 of the MICCAI Conference, Beijing*. Beijing, China, 2010. hal

[C64] Zahra, N., Frisson, T., Grevillot, L., Lautesse, P., **Sarrut, D.**, "Towards dosimetry and Quality Assurance for particle therapy beams using radiochromic MD-v2-55 films". In: *PTCOG 49 – 49th Annual Conference of the Particle Therapy Co-Operative Group*. Gunma, Japan, 2010. **[no HAL]**

[C63*] Ayadi, M., Imbert, L., Bouilhol, G., Ginestet, C., **Sarrut, D.**, "Optimization of three-dimensional computed tomography (3D CT) scan parameters for imaging moving lung tumors". In: *Radiother Oncol* 92 (Aug. 2009), pp. S181–S182. doi **[no HAL]**

[C62*] Bouilhol, G., Ayadi, M., Hau, N., Gassa, F., **Sarrut, D.**, Ginestet, C., Claude, L., "Tumor baseline shift for NSCLC SBRT treatment with cone-beam CT image guidance". In: *Radiother Oncol* 92 (Aug. 2009), p. S167. doi **[no HAL]**

[C61] Grèzes-Besset, L., Vandemeulebroucke, J., Clarysse, P., **Sarrut, D.**, "Respiratory motion tracking from different viewing angles during lung cancer treatment in radiotherapy". In: *IEEE NSS/MIC 2009 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. Orlando, FL, USA, 2009. **[no HAL]**

[C60] **Sarrut, D.**, "Deformable Image Registration for radiation therapy". In: *ESTRO 2009 – 10th Biennial ESTRO Meeting on Physics and Radiation Technology for Clinical Radiotherapy*. Elsevier, Maastricht, The Netherlands, 2009, p. S185. **[no HAL]**

[C59] Vandemeulebroucke, J., Kybic, J., Clarysse, P., **Sarrut, D.**, "Estimating breathing motion from cone-beam projections using a prior patient model". In: *ESTRO 2009 – 10th Biennial ESTRO Meeting on Physics and Radiation Technology for Clinical Radiotherapy*. Elsevier, Maastricht, The Netherlands, 2009, p. S185. **[no HAL]**

[C58] Vandemeulebroucke, J., Kybic, J., Clarysse, P., **Sarrut, D.**, "Respiratory motion estimation from cone-beam projections using a prior model". In: *Medical Image Computing and Computer-Assisted Intervention (MICCAI'09)*. Springer, London, UK, 2009, pp. in–press. doi **[no HAL]**

[C57] Frisson, T., Zahra, N., Grevillot, L., Guigues, L., **Sarrut, D.**, "Extending GATE for dosimetry : radiotherapy and hadrontherapy applications.". In: *IEEE NSS/MIC 2008 – IEEE Nuclear Science Symposium and Medical Imaging Conference (Conference Record)*. Dresden, Germany, Oct. 2008. **[no HAL]**

[C56] Seroul, P., **Sarrut, D.**, "VV: a viewer for the evaluation of 4D image registration". In: *In Medical Image Computing and Computer-Assisted Intervention MICCAI'2008, Workshop - Systems and Architectures for Computer Assisted Interventions*. New York, Sept. 2008. **[no HAL]**

[C55] Vandemeulebroucke, J., Clarysse, P., Kybic, J., **Sarrut, D.**, "Estimating Respiratory Motion from Cone-Beam Projections". In: *In Medical Image Computing and Computer-Assisted Intervention MICCAI'2008, The First International Workshop on Pulmonary Image Analysis*. New York, Sept. 2008. **[no HAL]**

[C54] Zahra, N., Frisson, T., Lautesse, P., **Sarrut, D.**, "Towards a new model of prediction of the optical density for radiochromic films using Monte-Carlo simulations for Carbon ion irradiation". In: *PTCOG 47 – 47th Annual Conference of the Particle Therapy Co-Operative Group*. Jacksonville, FL, USA, May 2008. **[no HAL]**

[C53] Brock K. on Behalf of the Deformable Registration Accuracy Consortium, "A Multi-Institution Deformable Registration Accuracy Study". In: *Int J Radiat Oncol Biol Phys* 69.3 (Nov. 2007), p. S44. **[no HAL]**

[C52] Ayadi, M., Vandemeulebroucke, J., Hlavacek, S., Boldea, V., Ginestet, C., **Sarrut, D.**, "Dosimetry on moving organs: static and dynamic dose distributions computed from 4DCT for lung cancer treatment". In: *ESTRO 2007 – 9th Biennial ESTRO Meeting on Physics and Radiation Technology for Clinical Radiotherapy*. Barcelona, Spain, Sept. 2007, p. S77. **[no HAL]**

[C51] Rit, S., **Sarrut, D.**, "Cone-beam projection of a deformable volume for motion compensated algebraic reconstruction". In: *29th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*. Lyon, France, Sept. 2007, pp. 6543–6546. doi hal

[C50] Zahra, N., Lautesse, P., Guigues, L., Frisson, T., **Sarrut, D.**, "Geant4-based simulation of Carbon beam irradiation inside CT image : validation with radiochromic films". In: *11th HCBPM (Heavy Charged Particles in Biology & Medicine) IBIBAM (Ion Beams In Biology and Medicine)*. Heidelberg, Germany, Sept. 2007. **[no HAL]**

[C49*] Boldea, V., Sharp, G. C., Jiang, S. B., **Sarrut, D.**, "Construction of 4D-CT motion model using deformable registration: comparison of Eulerian and Lagrangian approaches". In: *AAPM 2007 – 49th Annual Meeting of the American Association of Physicists in Medicine*. Minneapolis, MN, USA, July 2007. hal

[C48] Badel, J., **Sarrut, D.**, Ginestet, C., "Prediction of portal dose images with Monte Carlo simulation for dosimetric control in radiotherapy". In: *ICCR 2007 – XVth International Conference on the Use of Computers in Radiation Therapy*. Toronto, Canada, June 2007, p. 6244. **[no HAL]**

[C47] Boldea, V., Sharp, G., Jiang, S., **Sarrut, D.**, "Lung motion modeling with deformable registration: non-linearity and hysteresis estimation and analysis". In: *ICCR 2007 – XVth International Conference on the Use of Computers in Radiation Therapy*. Toronto, Canada, June 2007, p. 6162. hal

[C46] Rit, S., Ginestet, C., **Sarrut, D.**, "Comparison of gated and dynamic cone-beam CT reconstruction methods". In: *ICCR 2007 – XVth International Conference on the Use of Computers in Radiation Therapy*. Toronto, Canada, June 2007, p. 6118. hal

[C45] **Sarrut, D.**, "Deformable registration and 4D cone-beam CT reconstruction". In: *Elekta 3rd European User's Conference*. Sitges, Spain, June 2007, pp. 85–90. **[no HAL]**

[C44] Vandemeulebroucke, J., **Sarrut, D.**, Clarysse, P., "Point-validated Pixel-based Breathing Thorax Model". In: *ICCR 2007 – XVth International Conference on the Use of Computers in Radiation Therapy*. Toronto, Canada, June 2007, pp. 195–199. **[no HAL]**

[C43] Wu, Z., Sharp, G., Rietzel, E., Boldea, V., **Sarrut, D.**, "Validation of deformable registration of lung 4DCT with anatomical sub-region segmentations". In: *ICCR 2007 – XVth International Conference on the Use of Computers in Radiation Therapy*. Toronto, Canada, June 2007, p. 6274. **[no HAL]**

[C42] Rit, S., **Sarrut, D.**, Miguet, S., "Gated cone-beam CT imaging of the thorax: a reconstruction study". In: *SPIE Medical Imaging*. San Diego, CA, USA, Feb. 2007, p. 651022. doi hal

[C41] Guigues, L., **Sarrut, D.**, Dufour, N., Ricol, M., Testa, E., Boutemeur, M., Freud, N., Létang, J. M., "A Platform for Monte Carlo Simulation of Cancer Therapy with Photon and Light Ions Beams based on the Geant 4 Toolkit". In: *IEEE NSS/MIC 2006 – IEEE Nuclear Science Symposium and Medical Imaging Conference*. San Diego, CA, USA, Oct. 2006, pp. N14–271. hal

[C40] Guigues, L., **Sarrut, D.**, Dufour, N., Ricol, M., Testa, E., Boutemeur, M., Freud, N., Létang, J. M., "ThIS : A Geant4-based Therapeutic Irradiation Simulator". In: *1st European Workshop on Monte Carlo Treatment Planning (MCTP)*. Ghent, Belgium, Oct. 2006. hal

[C39] Ayadi, M., **Sarrut, D.**, Ginestet, C., "Cumulating static dose distributions to simulate dynamic dose distributions: an experimental study". In: *Medical Physics*. Orlando, FL, USA, June 2006, p. 2084.

[no HAL]

[C38] Boldea, V., Sharp, G., Jiang, S., Choi, N., Ginestet, C., Carrie, C., **Sarrut, D.**, "Implementation and Evaluation of Automatic Contour Propagation in 4DCT of Lung". In: *Medical Physics*. Orlando, FL, USA, June 2006, pp. 2019–2020. hal

[C37*] Chaieb, E., Rit, S., Giroud, E., Ayadi, M., Ginestet, C., **Sarrut, D.**, "Évaluation des différents protocoles pour l'acquisition d'images 4D sur un scanner non prévu à cet effet". In: *SFPM 2006 – 45èmes Journées Scientifiques de la Société Française de Physique Médicale*. Lyon, France, June 2006. hal

[C36] Dufour, N., Guigues, L., Boutemeur, M., **Sarrut, D.**, "Monte Carlo Simulation Platform for the External Techniques of Treatment of Cancer". In: *1st European Conf. on Molecular Imaging Technology (EUROMEDIM'06)*. Marseille, France, May 2006. **[no HAL]**

[C35] Badel, J., Ginestet, C., Dufour, N., **Sarrut, D.**, "Monte Carlo simulations of the transit dose from amorphous silicon electronic portal images". In: *The 9th International Workshop on Electronic Portal Imaging*. Melbourne, Australia, 2006. **[no HAL]**

[C34*] Boldea, V., **Sarrut, D.**, Sharp, G. C., Jiang, S. B., Choi, N. C., "Etude de mouvement dans une acquisition tomodensitométrique 4D par recalage déformable". 16ème Congrès de la Société Française de Radiothérapie Oncologique, SFRO, Dec. 2005. hal

[C33*] Rit, S., **Sarrut, D.**, Ginestet, C., "Extraction du signal respiratoire à partir de projections cone-beam du thorax pour l'imagerie TDM 4D en radiothérapie". 16è Congrès National de la Société Française de Radiothérapie Oncologique, SFRO, 6-7, Dec. 2005. doi hal

[C32*] Rit, S., **Sarrut, D.**, Boldea, V., Ginestet, C., "Extraction du signal respiratoire pour l'acquisition d'images 4D du thorax à partir de projections CT cone-beam". In: *SFPM 2005 – 44èmes Journées Scientifiques de la Société Française de Physique Médicale*. Avignon, France, June 2005. hal

[C31*] Boumghar, O., Touat, Y., **Sarrut, D.**, Miguet, S., "Génération de DRR à l'aide d'un système hybride shear-warp-splatting pour la radiothérapie conformationnelle". In: *Surgetica'2005*. Grenoble, France, Jan. 2005, pp. 333–337. hal

[C30] Badel, J., Ginestet, C., N., D., **Sarrut, D.**, "Monte Carlo simulation of the transit dose from amorphous silicon electronic portal images for treatment control in radiotherapy". In: *Int J Radiat Oncol Biol Phys* 63.Sup 1 (2005), pp. S546–S547. **[no HAL]**

[C29] Boldea, V., **Sarrut, D.**, Carrie, C., "Comparison of 3D Dense Deformable Registration Methods for Breath-hold Reproducibility Study in Radiotherapy". In: *SPIE Medical Imaging: Visualization, Image-Guided Procedures, and Display*. San Diego, CA, USA, 2005, pp. 222–230. doi hal

[C28] Boldea, V., **Sarrut, D.**, Sharp, G., Jiang, S., Choi, N., "Study of Motion in a 4D-CT Using Deformable Registrations". In: *Int J Radiat Oncol Biol Phys* 63.Sup 1 (2005), pp. S599–S500. doi hal

[C27] Rit, S., **Sarrut, D.**, Ginestet, C., "Respiratory signal extraction for 4D CT imaging of the thorax from cone-beam CT projections". In: *Medical Image Computing and Computer-Assisted Intervention (MICCAI)*. Springer Verlag, Lecture Notes in Computer Science, Palm Springs, CA, USA, 2005, pp. 556–63. doi hal

[C26] Rit, S., **Sarrut, D.**, Ginestet, C., "Respiratory signal extraction for 4D CT imaging of the thorax from cone-beam CT projections". In: *Int J Radiat Oncol Biol Phys* 63.Sup 1 (2005), pp. S533–S534. **[no HAL]**

[C25] **Sarrut, D.**, Boldea, V., Miguet, S., Ginestet, C., "Simulation of 4D CT images from deformable registration between inhale and exhale breath-hold CT scans". In: *Int J Radiat Oncol Biol Phys* 63.Sup 1 (2005), pp. S589–S610. hal

[C24] **Sarrut, D.**, "Three imaging techniques for treatment of moving organs". In: *HCBPM (Heavy Charged Particles in Biology & Medicine)*. Oropa, Italy, 2005. **[no HAL]**

[C23] Ayadi, M., Boldea, V., Badel, J., Ginestet, C., **Sarrut, D.**, Carrie, C., "Dosimetric consequences of GTV's residual displacements for patients treated with the ABC device". In: *The 4th S.Takahashi Memorial International Workshop on 3 Dimensional Conformal Radiotherapy*. Nagoya, Japan, Dec. 2004. hal

[C22] Pommier, P., Perol, D., **Sarrut, D.**, Clippe, S., Claude, L., Gomez, F., Martel-Lafay, I., Vincent, M., Perol, M., Falcheroa, L., Etienne-Mastroianni, B., Ginestet, C., Carrie, C., "Active breathing control combined with high dose 3D conformal radiotherapy for non small cell lung cancer patients with severe respiratory insufficiency. Experience of the centre the Centre Léon Bérard". In: *The 4th S.Takahashi Memorial International Workshop on 3 Dimensional Conformal Radiotherapy*. Nagoya, Japan, Dec. 2004. hal

[C21] Atoui, H., **Sarrut, D.**, Miguet, S., "Usefulness of image morphing techniques in cancer treatment by conformal radiotherapy". In: *SPIE Medical Imaging: Visualization, Image-Guided Procedures, and Display*. San Diego, CA, USA, 2004, pp. 332–340. doi hal

[C20] Ayadi, M., **Sarrut, D.**, Boldea, V., Badel, J., Ginestet, C., Clippe, S., Carrie, C., "Reproductibilite du blocage respiratoire : évaluation 3D à l'aide d'algorithme de recalage non rigide d'images". In: *43èmes Journées Scientifiques de la Société Française de Physique*. Montpellier, 2004. hal

[C19] Badel, J., Sebban, M., Ginestet, C., **Sarrut, D.**, "Contrôle du traitement en radiothérapie par l'utilisation de l'imagerie portale numérique : contrôle dosimétrique et du positionnement". In: *43èmes Journées*

Scientifiques de la Société Française de Physique. Montpellier, 2004. hal

[C18] **Sarrut, D.**, Boldea, V., Clippe, S., Ginestet, C., Carrie, C., "Non-rigid registration method to assess the reproducibility of breath-holding with ABC in lung cancer". In: *Int J Radiat Oncol Biol Phys* 60.Sup 1 (2004), pp. S606–S607. doi hal

[C17] Boldea, V., **Sarrut, D.**, Clippe, S., "Lung Deformation Estimation with Non-Rigid Registration for Radiotherapy Treatment". In: *Medical Image Computing and Computer-Assisted Intervention (MICCAI)*. Springer Verlag, Lecture Notes in Computer Science, Montréal, Canada, Nov. 2003, pp. 770–777. doi hal

[C16] Clippe, S., **Sarrut, D.**, Miguet, S., Carrie, C., "Aide au positionnement du patient en radiothérapie conformationnelle par l'usage de techniques de recalage d'images 2D/3D basées sur l'intensité des pixels". In: *SFRO 2002 – 13e Congrès National de la Société Française de Radiothérapie Oncologique*. Paris, France, 2002. **[no HAL]**

[C15] Clippe, S., **Sarrut, D.**, "Patient positioning in radiotherapy". In: *92nd Annual Meeting — American Association for Cancer Research*. New Orleans, LA, 2001. **[no HAL]**

[C14] **Sarrut, D.**, Clippe, S., "Geometrical transformation approximation for 2D/3D intensity-based registration of portal images and CT scan". In: *Medical Image Computing and Computer-Assisted Intervention (MICCAI)*. Springer Verlag, Lecture Notes in Computer Science, Utrecht, The Netherlands, 2001, pp. 532–540. doi **[no HAL]**

[C13] **Sarrut, D.**, Clippe, C., "Positionnement de patient en radiothérapie par recalage 2D/3D sans segmentation". In: *Radiothérapie Assistée par l'Image (RAI 2001)*. Nice, France, 2001. **[no HAL]**

[C12] **Sarrut, D.**, Miguet, S., Vincent, F., Clarysse, P., Exbrayat, M., Brunie, L., Fleute, M., Desbat, L., Magnin, I., "Requêtes complexes et hybrides dans des bases d'images médicales distantes. Une illustration en imagerie cardiaque". In: *ASTI'2001, Premières rencontres des Sciences et Technologies de l'Information*. Paris, France, 2001. **[no HAL]**

[C11] Teytaud, O., **Sarrut, D.**, "Convergence speed of deformable models". In: *INNS-IEEE International Joint Conference on Neural Networks (IJCNN)*. Washington, DC, USA, 2001. doi **[no HAL]**

[C10] Teytaud, O., **Sarrut, D.**, "Kernel Based Image Classification". In: *International Conference on Artificial Neural Networks (ICANN)*. Vienna, Austria, 2001, pp. 369–375. doi **[no HAL]**

[C9] Miguet, S., **Sarrut, D.**, Clippe, C., "Positionnement de patient en radiothérapie conformationnelle". In: *Avancées et perspectives en matière de GMCAO (Gestes Médico-Chirurgicaux Assistés par Ordinateur)*. Grenoble, France, 2000. **[no HAL]**

[C8] **Sarrut, D.**, Clippe, S., "Patient positioning in radiotherapy by registration of 2D portal to 3D CT images by a contend-based research with similarity measures". In: *Computer Assisted Radiology and Surgery (CARS)*. Elsevier Science, San Francisco, USA, 2000, pp. 707–712. **[no HAL]**

[C7] Coeurjolly, D., **Sarrut, D.**, Tougne, L., "Décimation en Imagerie Médicale 3D". In: *Courbes Surfaces et Algorithmes*. Grenoble, France, 1999. **[no HAL]**

[C6] **Sarrut, D.**, Miguet, S., "ARAMIS: A Remote Access Medical Imaging System". In: *3rd International Symposium on Computing in Object-Oriented Parallel Environments*. Springer-Verlag, San Francisco, USA, 1999, pp. 55–60. doi **[no HAL]**

[C5] **Sarrut, D.**, Miguet, S., "Fast 3D Images Transformations for Registration Procedures". In: *10th International Conference on Image Analysis and Processing*. IEEE Computer Society, Venice, Italy, 1999, pp. 446–452. **[no HAL]**

[C4] **Sarrut, D.**, Miguet, S., "Similarity Measures for Image Registration". In: *European Workshop on Content-Based Multimedia Indexing*. IHMPT–IRIT, Toulouse, France, 1999, pp. 263–270. **[no HAL]**

[C3] **Sarrut, D.**, Feschet, F., "The Partial Intensity Difference Interpolation". In: *International Conference on Imaging Science, Systems and Technology*. CSREA Press, Las Vegas, USA, 1999, pp. 46–51. **[no HAL]**

[C2] **Sarrut, D.**, "ARAMIS: an "on line" Parallel Platform for Medical Imaging". In: *International Conference on Parallel and Distributed Processing Technique and Applications*. CSREA Press, Las Vegas, USA, 1998, pp. 509–516. **[no HAL]**

[C1] Miguet, S., Nicod, J., **Sarrut, D.**, "A Linear Algorithm for constructing the Polygon Adjacency Relation in a Iso-Surface of 3D Images". In: *International Conference on Discrete Geometry for Computer Imagery (DGCI) 1997*. Springer-Verlag, Montpellier, France, 1997, pp. 125–136. doi **[no HAL]**

Patents

[P1*] Richaud, M., Wischhusen, J., Neves, D., Mehlen, P., **Sarrut, D.**, Gibert, B., Kryza, D., "NETRIN-1 DETECTION, COMPANION TEST AND THERAPY BASED ON RADIATIONS". EP4377341, Nov. 2024. hal

Theses

[T3] **Sarrut, D.**, "Imagerie dynamique et simulations Monte-Carlo pour la radiothérapie guidée par l'image". HDR. Université Claude-Bernard Lyon I, 2008. **[no HAL]**

[T2] **Sarrut, D.**, "Recalage multimodal et plate-forme d'imagerie médicale à accès distant". PhD. Université Lumière Lyon 2, Jan. 2000. **[no HAL]**

[T1] **Sarrut, D.**, "Imagerie Médicale et Segmentation du Cerveau". Master's thesis. École Normale Supérieure de Lyon, 1997. **[no HAL]**

Reports

[R7*] Alphonse, G., Ardail, D., Armandy, E., Bajard, M., Balosso, J., Baron, M.-H., Battiston-Montagne, P., Bertrand, G., Beuve, M., Biston, M.-C., Blanchard, G., Bouhadiba, O., Boutin, B., Cajavec-Bernard, B., Chandez, F., Chanrion, M.-A., Chollier, L., Constanzo, J., Cunha, M., Dabli, D., Dahoumane, M., Dauvergne, D., de Rydt, M., Dedes, G., Deng, S., Ducimetière, F., Fallavier, M., Fayet, Y., Ferrandon, S., Force, P., Freud, N., Gagnon, C., Ganne, C., Gautier, M., Gilormini, M., Glatard, T., Hu, Y., Insa, C., Jaillet, F., Joly, B., Krimmer, J., Ladjal, H., Lambert, D., Lestand, L., Letang, J., Ley, J.-L., Magné, N., Malesys, C., Martin, F., Mathez, H., Maxim, V., Moncharmont, C., Montarou, G., Moreau, J.-M., Pequegnot, L., Patin, S., Pauna, N., Pinto, M., Pommier, P., Poncet, D., Pop-Camarasu, S., Prost, R., Ray, C., Ray-Coquard, I., Reithinger, V., Remillieux, J., Ribba, S., Richard, M.-H., Rit, S., Rodriguez-Lafrasse, C., Roellinghoff, F., Royer, L., **Sarrut, D.**, Shariat, B., Testa, E., Vert, P.-E., Vial, L., Vogin, G., Zara, F., Zoccarato, Y., "2012 Activity Report of the Regional Research Programme on Hadrontherapy for the ETOILE Center". Centre Etoile ; Université Lyon 1 - Claude Bernard, June 2013. hal

[R6] Rit, S., Giroud, E., Chaieb, E., Ginestet, C., **Sarrut, D.**, "A new system for the acquisition of the respiratory signal in 4D CT imaging". Centre Léon Bérard, 2006. **[no HAL]**

[R5] **Sarrut, D.**, "CATRIM : Contrôle Actif du Traitement en Radiothérapie par l'Image et le Modèle". Université Lumière Lyon 2, 2003. **[no HAL]**

[R4] **Sarrut, D.**, Clippe, S., "Fast DRR generation for intensity-based 2D/3D image registration in radiotherapy". LIRIS, Lyon, 2003. **[no HAL]**

[R3] **Sarrut, D.**, Clippe, S., Miguet, S., "Patient positionning in radiotherapy : registration of 2D portal to 3D CT images by a content-based research with similarity measures". 4th IEEE EMBS International Summer School on Medical Imaging, 2000. **[no HAL]**

[R2] Feschet, F., **Sarrut, D.**, Miguet, S., "Automated Position Control in Conformal Radiotherapy". Laboratoire ERIC, 1999. **[no HAL]**

[R1] **Sarrut, D.**, "Un algorithme linéaire pour construire la relation d'adjacence d'une iso-surface issue d'une image 3D". Laboratoire ERIC, 1997. **[no HAL]**

Other (software, preprints, misc.)

[O9*] Schramm, G., Auer, B., Etxebeste, A., Galve, P., Göbbert, J. H., Gustafsson, J., Kereta, Ž., Krah, N., Lerche, C. W., Li, C., Herraiz, J. L., **Sarrut, D.**, Scheins, J. J., Udías, J. M., Arridge, S., Rafecas, M., Thielemans, K., "Roadmap: Image reconstruction in emission tomography for the era of fast Monte Carlo simulation". arXiv, Oct. 2026. doi **[no HAL]**

[O8*] **Sarrut, D.**, "OpenDose S-values and reference organ masses, ICRP 110 adult phantoms (radot data, v1.0)". Zenodo dataset, 2026. doi **[no HAL]**

[O7*] **Sarrut, D.**, "radot OpenGATE validation data: patient p142 (Lu-177, Y-90, I-131, Ac-225 dose rates)". Zenodo dataset, 2026. doi **[no HAL]**

[O6*] OpenGATE collaboration, **Sarrut, D.**, "GATE". Opengate collaboration, Nov. 2024. hal

[O5] Camarasu-Pop, S., **Sarrut, D.**, Benoit-Cattin, H., Glatard, T., "GATE-Lab". Sept. 2009. **[no HAL]**

[O4] Camarasu-Pop, S., Benoit-Cattin, H., Moscicki, J., **Sarrut, D.**, Glatard, T., "Results and evaluation of ThIS on grid". Mar. 2009. **[no HAL]**

[O3] Glatard, T., Camarasu-Pop, S., Benoit-Cattin, H., Clarysse, P., Montagnat, J., Moscicki, J., Olabarriaga, S., **Sarrut, D.**, "Integrating pilot-jobs, workflows and virtual resource browser to foster medical image analysis on EGEE". Mar. 2009. **[no HAL]**

[O2] Camarasu-Pop, S., Benoit-Cattin, H., Guigues, L., **Sarrut, D.**, "Porting ThIS on the EGEE grid". Sept. 2008. **[no HAL]**

[O1] Camarasu-Pop, S., Guigues, L., Benoit-Cattin, H., **Sarrut, D.**, "ThIS on the Grid". Feb. 2008. **[no HAL]**