Stratos

Research Dosimetry Solution

Imalytics Research Workstation

PHILIPS

Stratos

Dosimetry Solution

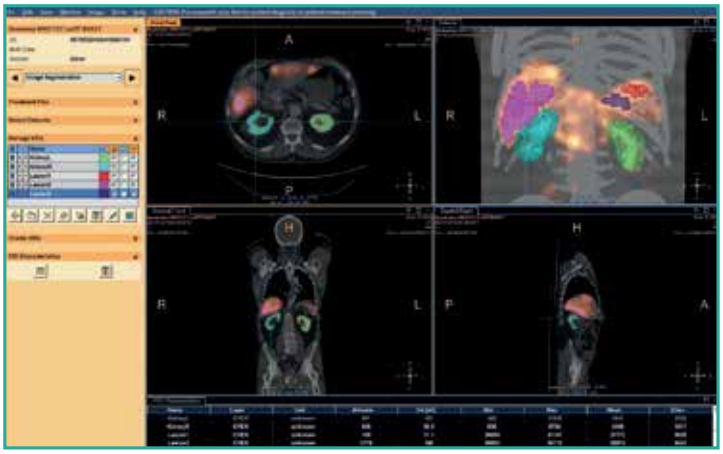
The STRATOS Dosimetry Solution is an advanced research software package for 3D voxelized dose calculation in nuclear medicine, using SPECT/CT and PET/CT data. It allows the calculation and visualization of patient-specific dose maps for targeted radionuclide therapies.

Key features of the Stratos Dosimetry Solution:

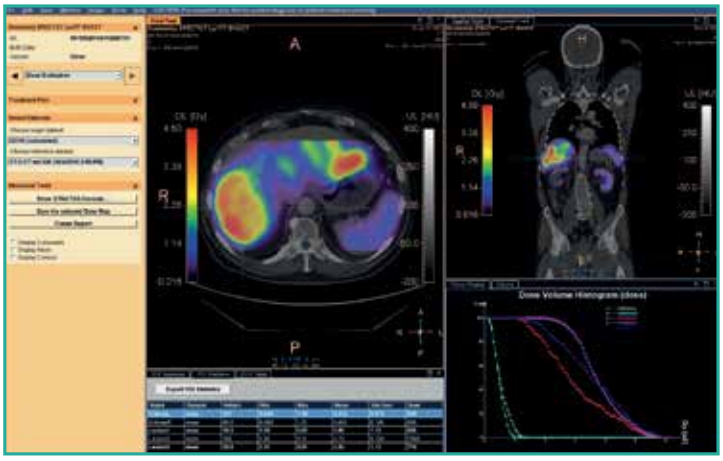
- complete workflow for multiple 3D images, including registration, segmentation and visualization
- calculation of voxel-wise residence-time maps
- calculation of voxel-wise energy-dose distributions using a Dose-Volume-Kernel approach according to MIRD pamphlet 17
- supported therapy isotopes: ^{131}I, ^{90}Y, ^{177}Lu, ^{166}Ho, ^{188}Rh, ^{32}P, ^{153}Sm (others on request)
- support for all SPECT and PET imaging isotopes, enabling both prospective as well as retrospective studies
- calculation of dose statistics and Dose-Volume-Histograms per region
- tissue density correction based on the CT scan
- HTML report with key results and images from the analysis

Additionally, you can also use planar images as input for the calculation of 3D maps in dosimetry imaging procedures. This means that you can adapt the analysis to your clinical workflow and use a combination of 3D scans and planar images, considerably shortening the overall imaging time.

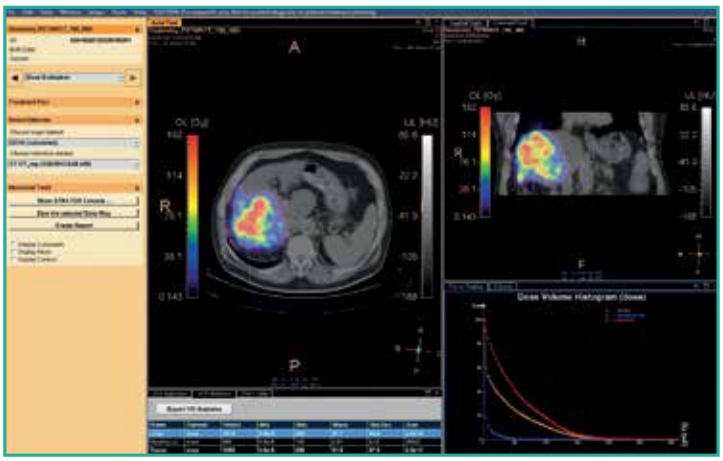
Note: STRATOS is an additional module for Imalytics sold separately



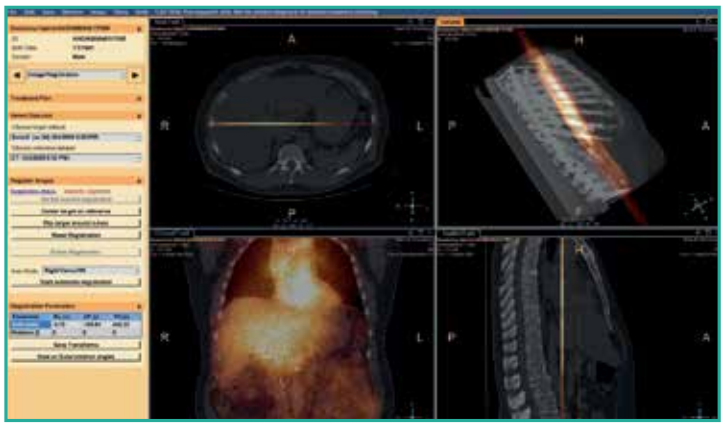
3D VOI definition on SPECT/CT images for a ^{177}Lu-DOTATOC therapy case



3D dose map fused with CT data; dose statistics and dose-volume-histogram for a ^{177}Lu-DOTATOC therapy case



3D dose map fused with CT data; dose statistics and dose-volume-histogram for a ^{90}Y SIRT case



Registration of a planar scintigraphy image to a 3D CT in Stratos+

Publications

Study-Parameter Impact in Quantitative 90-Yttrium PET Imaging for Radioembolization Treatment Monitoring and Dosimetry.
Goedicke A, Berker Y, Verburg FA, Behrendt FF, Winz O, Mottaghy FM.
Medical Imaging, Volume 32, Issue 3, March 2013, Pages 485-492

Activity quantification combining conjugate-view planar scintigraphies and SPECT/CT data for patient-specific 3-D dosimetry in radionuclide therapy.
Berker Y, Goedicke A, Kemerink GJ, Aach T, Schweizer B.
Eur. J. Nucl. Med. Mol. Imaging, Volume 38, Issue 12, December 2011, Pages 2173-2185

Dosimetry in molecular nuclear therapy.
Wierts R, de Pont CD, Brans B, Mottaghy FM, Kemerink GJ.
Methods, Volume 55, Issue 3, November 2011, Pages 196-202

Evaluation of voxel-based dosimetry for targeted radionuclide therapies in phantom studies.
Schweizer B, Schaefer A, Donsch P, Kremp S, Gouverneur E, Farmakis G, Grgic A, Bal M, Kirsch CM, Hellwig D.
Eur. J. Nucl. Med. Mol. Imaging, Volume 36, Issue 2 Supplement, September 2009, Page 428

www.philips.com/imalytics

CAUTION: For reseach use only.
Not intended for diagnostics or patient therapy planning.

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