



Logos Systems Int'l

Press Release

LOGOS SYSTEMS INTRODUCES VOLUMEWORKS™

Scotts Valley, CA – July 5, 2012 -- Logos Systems Int'l announced the introduction of VolumeWorks™ for the reconstruction of x-ray beam vectors and profiles into three-dimensional fluence volumes for Image-Guided Radiation Therapy (IGRT) quality assurance.

VolumeWorks processes radiosurgery treatment plans captured with the XRV-100 Beam Metrology System and reconstructs 3D fluence gradients in a voxel array that can then be compared to the original target 3D test volume. The amount of agreement between the reconstructed volume and the original is a measure of the accuracy of the planning software as well as the radiation delivery system. Advanced quality assurance is essential for stereotactic radiosurgery systems such as the Accuray Cyberknife™ or the Varian TrueBeam™ that must deliver precisely shaped amounts of radiation to targeted regions in 3D space.

When capturing a plan, the XRV-100 is placed directly on the treatment couch as a patient head phantom. It contains fiducials that are used by the IGRT system for beam direction control while administering the treatment plan. While the IGRT system is delivering the treatment plan, the camera within the XRV-100 records each beam vector and profile at rates up to 20 frames per second. All vector and profile data is archived for later processing by the VolumeWorks software.

VolumeWorks takes the energy profile of each captured beam and repaints the x-ray fluence along the vector path through a multilayered array of voxels. Once all the beams are processed the voxel array data is displayed in 3D along with the shape measurements, center location, and beam vectors. The shape and measurements are updated in real-time as the operator adjusts the total fluence threshold between 0 and 100 percent. Reconstructed shape volumes may be exported in a variety of formats.

“VolumeWorks is a completely intuitive way of visualizing and verifying the complex three-dimensional radiation fields delivered while testing stereotactic radiosurgery systems,” said Brett Nelson, Managing Director of Logos Systems.

VolumeWorks has not received FDA 510K approval and is available only for engineering research purposes. It is intended for verifying non-patient specific test plans.

About Logos Systems Int'l

Logos Systems Int'l, based in Scotts Valley, California, specializes in developing and manufacturing x-ray and proton beam calibration systems using its patented geometric scintillator technology. www.logosvisionsystem.com

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