



PRESS RELEASE

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New Optical Tracker Hits the Spot In Radiation Therapy

Ascension Introduces 3D Guidance[®] spotLIGHT to Radiation Oncology Community

BURLINGTON, VERMONT, USA; November 18, 2010. **Ascension Technology Corporation** will unveil 3D Guidance spotLIGHT, its breakthrough optical tracker for improving radiation treatment outcomes at the Radiological Society of North America (<http://rsna2010.rsna.org/>) Annual Conference in Chicago, at McCormick Place, November 28 – December 2, 2010.

The tracking system dynamically bridges the gap between patient movements while on a treatment couch and the direction of a linear accelerator's radiation beams.

Misalignment of beams due to patient movement, respiration, organ motion, daily set-up errors, and mechanical tolerances of the LINAC machine is a major cause of collateral damage to healthy tissue.

3D Guidance spotLIGHT takes advantage of state-of-the-art advances in IR camera technology, signal processing algorithms, and prediction to track the six degrees-of-freedom location of multiple passive markers on the



Ascension's new optical tracker precisely localizes passive, wireless markers for image-guided procedures and aligning radiation beams with real-time changes in a patient's position.

patient to within one third of a millimeter at rates up to 100 times per second. Measurements are referenced to six miniature IR cameras that can be independently mounted at convenient locations in the LINAC suite. Tracking range (cameras to markers) extends to 4 meters. The six-camera configuration offers significant redundancy to overcome line-of-sight errors; only two cameras must see markers to compute a solution. Additional markers can be mounted on movable objects in the LINAC suite for contact detection.

Operationally, the system will be interfaced to safety servo controllers, monitoring deflections of the patient and equipment from true “home positions” as determined by pre-treatment simulations. Its data can be used to stop and re-target beams, synchronize beam delivery with breathing cycles, alert therapists to deviations beyond established norms, and to act as an independent system to protect both patient and equipment.

According to Ascension Vice President, Jack Scully, “3D Guidance spotLIGHT is a new cost-effective safety tool for keeping the patient and the radiation beam in precise alignment throughout a treatment regimen. It is designed to help therapists hit the center of the target 100% of the time.”

At RSNA, Ascension will demonstrate 3D Guidance spotLIGHT in Booth #7147, North Building. For more information about Ascension at RSNA, contact Trish Scott: tscott@ascension-tech.com.

Ascension Technology Corporation is a professional 3D tracking company specializing in navigation and guidance devices for medical instruments. Its optical and magnetic tracking devices are key enabling technology for image-guided procedures. Ascension’s magnetic sensors are currently used for needle tip navigation, volumetric measurement, and image fusion by leading medical device companies including GE Healthcare, Hitachi, Esaote, Ultrasonix, CIVCO, and many others. For more information, visit <http://www.ascension-tech.com>.

3D Guidance spotLIGHT is specified for medical use only in compliance with all pertinent FDA/CE/IRB directives.

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