

Xensor™ - Easy digitization of 3D sensor positions



Straightforward digitization of 3D sensor positions

The Xensor system provides users a complete solution for digitizing 3D positions. Xensor is based on the highly accurate NDI Vicra™ stereo infrared camera. A step-by-step workflow guides the user through the digitization procedure. Xensor stands for optimal visualization combined with ease of use.

Features overview

Real time tracking of optical tools

The system consists of the NDI Vicra™ 3D camera with a typical accuracy of 2mm. The camera tracks the movement of a digitizer pen and a head tracking tool which can be mounted easily on e.g. the Waveguard EEG cap. Subjects can freely move their head, no fixation is required.

Supported all major image file formats

Xensor can read the following formats: DICOM, Analyze (SPM), Nifty, ASA and Neuromag. Furthermore, it has a semi-automated head model creation feature.

Individual registration using fiducial markers

Three fiducial positions are required in order to create a reference coordinate system. The points are the nasion, left and right ear point (preauricular points). The nasion-ear-coordinate system is defined such that x points to the nasion, y to the left ear and z to the top of the head.

Head shape point generation to achieve highest accuracy

Using only the three fiducial markers for the transformations between the tool-based coordinate system and the MRI coordinate system based on the subject's MRI and head model can result in inaccuracies. In order to minimize these inaccuracies the following step is measuring additional points from the subject's head using the pointer.

Digitization procedure

After the co-registration steps a file is loaded that contains the 3D positions. The installation contains predefined position files for all Waveguard caps. The user is guided through all positions automatically and also has the option to go back and forth through positions. Digitization is as easy as a click on a button!

Applications

Source localization

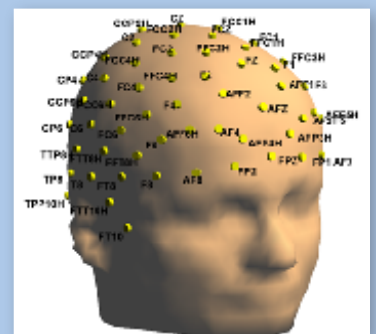
Optimize your source localization results by adding individual 3D sensor positions to your dipole fit, cortical imaging, minimum norm estimation or (sw)LORETA methods.

NIRS / EEG

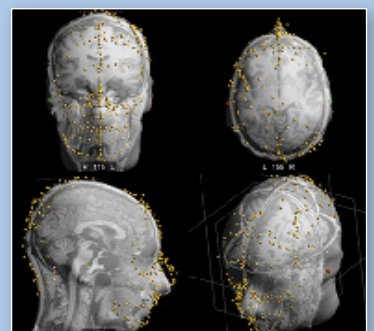
The use of Xensor is not limited to improving source localization results only. It can also be used to measure of optode positions used for near infrared spectroscopy (NIRS). NIRS data can be imported and visualized as a topographical map.



Xensor system setup with 3D Vicra camera



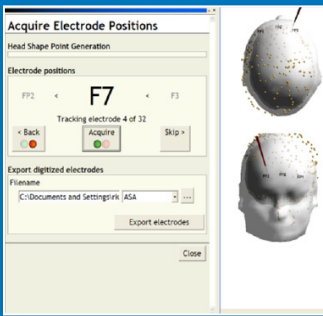
3D head model with digitized electrode position



Acquiring head shape landmark points



A N T



Xensor workflow page at the digitization step



Waveguard cap with head reference tool



Digitizer pen tool



NIRS compatible Waveguard cap

System requirements for Xensor

- Runs on the following OS: Win XP, Win 7 32 bit (PRO or Ultimate)
- Required internal memory of 1024 MB
- For optimal use screen resolution of min. 1024 x 768 is recommended
- A wheel-mouse recommended
- Central processing unit (CPU): > 2.2 GHz
- MS Internet Explorer 6.0.26 or higher
- CD / DVD player
- DirectX 9.0 c or higher
- USB2 for use of dongle license

For more information and most recent updates about Xensor please refer to our website.



Visit our website at:
www.ant-neuro.com

ANT Support

We are always thinking of new ways to provide our customers with resourceful information to advance their research and to benefit from the full functionality of our highly interoperable systems. The ANT user forum, online support and direct support are just a few to name. Our support team of dedicated professionals is able to give accurate answers in no time; a result of knowledge and experience gained through many years of fieldwork and close collaboration with our customers. Every system and software purchase is followed by a complimentary standard support of one year. A prolongation of support service as well as extended range of support services is available upon request.

