Preface
Acknowledgement
Prelude

Medical imaging
3D-Gd-enhanced MR angiography (MRA) for establishing venous thrombo-embolic disease: one stop shop imaging of pulmonary arteries, vena cava, pelvic and both lower extremity veins in 30 minutes

The influence of beam-pitch, reconstruction slice-thickness, and kernels on 3D-visualisation of 16-MSCT data

Helical CT of the cervical spine injury: is there any role for plain films?

Performance evaluation of the first model of 4D CT-scanner

Image processing and 3D visualization

Automatic path searching for interactive navigation support within virtual medical 3D objects

Segmentation and virtual exploration of tracheobronchial trees

3D-segmentation and finite element modelling of spine segments

New display mode for emphasizing concentration of fold patterns in virtual gastroscopy

Remote visualisation of patient data in the operating theatre during hepatopancreatic surgery

Novel projection views for simplified reading of thorax CT scans with multiple pulmonary nodules

Laser projection augmented reality system for computer-assisted surgery

Atlas-based processing

From research to clinical practice: Cerefy brain atlas story

Matching system of the Schaltenbrand's brain atlas

Computer-assisted bone age assessment - database adjustment

3-D interactive atlas of human tooth anatomy

Atlas-based determination of anatomical landmarks to support the virtual planning of hip operations

Computer assisted radiation therapy

3D tomographic reconstruction from portal imaging for patient positioning

A test environment for ultrasound-based navigation in radiation therapy

Registration of CT and MRI volume data of the liver

SCULPTER: fast evidence based 3D anatomy sculpting in radiotherapy by computerised topological self-mapping

Skin respiratory motion tracking for stereotactic radiosurgery using the CyberKnife

Confidence-based automated tracking of small gold seeds in single frame amorphous silicon megavoltage images

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Virtual surgical tele-simulations in ophthalmology

A Virtual surgical telesimulation in micrographic dermatologic surgery

Interactive graphical animation of human knee joint movements
Noise of LCD display systems

Experiences with a workstation prototype for softcopy reading within the Bavarian mammography re-certification programme

Image processing and display

Automated analysis for the respiratory kinetics with the screening dynamic chest radiography using a flat-panel detector system

Performance of image-intensifier equipped X-ray systems for three-dimensional imaging

A high-performance computing service over the Internet for nonrigid image registration

Intraoperative soft tissue 3D reconstruction with a mobile C-arm

Fast semi-automatic stereoradiographic reconstruction of scoliotic spines using multi-scale image processing and statistical geometric models

Personalized 3D reconstruction of proximal femur from low-dose digital biplanar radiographs

Spatial relationship between the interhemispheric fissure plane and the head symmetry plane

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