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   Nota di contenuto   Colour plates -- Surgical probe design for a coincidence imaging system without a collimator -- Voxel based Monte Carlo calculations of nuclear medicine images and applied variance reduction techniques -- SPECT scatter correction in non-homogeneous media -- Cone beam single photon emission computed tomography using two orbits -- Spline-based regularisation for discrete FBP reconstruction -- Reconstruction of 3-D branching structures -- Preliminary examination of the use of case specific medical information as "prior" in Bayesian reconstruction -- On reconstruction and segmentation of piecewise continuous images -- Incorporation of anatomical MR data for improved functional imaging with PET -- Bayesian reconstruction of functional images using registered anatomical images as priors -- Interactive 3D patient — image registration -- Marker guided registration of electromagnetic dipole data with tomographic images --

An anatomical-based 3D registration system of multimodality and atlas data in neurosurgery -- Registration of brain images by a multi-resolution sequential method -- Automating segmentation of dual-echo MR head data -- Automatic detection of brain contours in MRI data sets -- Towards automated analysis in 3D cardiac MR imaging -- Segmentation of Magnetic Resonance images using mean field annealing -- A stochastic model for automated detection of calcifications in digital mammograms -- Scale space: Its natural operators and differential invariants -- Scale and segmentation of grey-level images using maximum gradient paths -- Using uncertainty to link 3D edge detection and local surface modelling -- Boundary estimation in ultrasound images -- Topological classification in digital space -- Shape-based interpolation using a chamfer distance -- Thin-Plate splines and the atlas problem for biomedical images -- Non-rigid motion models for tracking the left-ventricular wall -- Model-based recognition of multiple deformable objects using a game-theoretic framework -- Extraction of background distributions from abnormal data sets: Application to radiolabelled leucocyte imaging -- A quantitative comparison of current methods of factor analysis of dynamic structures (FADS) in renal dynamic studies -- Confirmatory aspects in factor analysis of image sequences -- Trainable models for the interpretation of echocardiogram images -- KIDS : A distributed expert system for biomedical image interpretation -- Learning of uncertain classification rules in biomedical images: The case of colposcopic images -- A fuzzy model for the processing and recognition of MR pathological images -- Linear discriminants and image quality -- Edge-affected context for adaptive contrast enhancement -- Incremental volume rendereing algorithm for interactive 3D ultrasound imaging -- Compression of sequences of 3D-volume surface projections.

Sommario/riassunto	The 1991 International Conference on Information Processing in Medical Imaging (IPMI '91) is the twelfth in the series and was held in Wye College, part of the University of London. The purpose of IPMI is to provide a forum for the detailed examination of methodological issues in computing which are at the heart of advances in medical image formation, manipulation and interpretation. This volume presents the proceedings of IPMI '91. Full-length scientific papers describing the latest techniques and results are organized into the following nine sections: - Image formation and reconstruction - Incorporation of priors in tomographic reconstruction - Multi-modal registration - Segmentation: specific applications - Segmentation: multi-scale, surfaces and topology - Anatomical models and variability - Factor analysis - Rule based systems and learning - Image quality, display and interaction. The volume also includes a set of color plates and a subject index. The book provides an up-to-date account of current work in the expanding and fast-moving area of image processing and medical imaging, and gives an overview of work at all the key centers researching in this area. It will prove an invaluable asset to all researchers working in the area and to the libraries of organizations involved in imaging research.