3D reconstruction [techniques, analysis and new developments /

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Monografía

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Contenido: Preface; Chapter 1; Preoperative Planning and Intraoperative Navigation, Based on 3D Modeling for Retroperitoneal Procedures; Abstract; Introduction; Materials and Methods; Segmentation Based on Bayesian Classifier; Segmentation Based on Level Function; Bases of Operation Zone 3D Models Reconstruction; Correlating the Display of Video Endoscopic Data, the Patient's Body Model, the Position of the Surgical Tool at the Stages of Surgery Planning and Executing; Mathematical Model of the System for Virtual Object Imaging; Mathematical Model of the System For Real Object Imaging Real Object and Virtual Model Images ComplexingClinical Part of the Research; Results; Discussion; Conclusion; References; Biographical Sketch; Chapter 2; Fringe Patterns Analysis Using Phase Shifting Techniques Applied to Solid Digitalization in Arm Architecture; Abstract; Introduction; 3D Reconstruction; Fringe Analysis; Image Acquisition and Calibration; Image Calibration; Image Preprocessing; Post-Processing; Phase-Shifting Profilometry (PSP); Three-Step Algorithms; Song Zhang Algorithm; Four-Step Algorithm; Phase Unwrapping; 3D Reconstruction on Embedded Systems Digital Signal Processors (DSP)ARM Processors; Graphic Processing Units (GPU); Field Programmable Gate Array (FPGA); Result Analysis; Simulation; Implementation on a PC; Implementation in an ARM-Based Development Board; Conclusion; References; Chapter 3; Analysis of 3D Digitalization by Fourier Transform Profilometry (FTP); Abstract; Introduction; Fourier Transform (FFT); Fourier Transform Profilometry; Phase Unwrapping Algorithms Used in Techniques Profilometric; Linear Least-Squares Regression; Methodology and Test; Conclusion; References; Chapter 4 Comparative Study between Different Wavelet Transform for Its Use in

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