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-- EXTENDING THE MODIFIED FOURIER SERIES METHOD TO 2-D STRUCTURAL COMPONENTS - PLATES WITH ARBITRARY BOUNDARY CONDITIONS -- DYNAMIC ANALYSIS OF COMPLEX STRUCTURES -- CONCLUSION -- APPENDIX A: EXPRESSIONS OF H, Q, S AND Z MATRICES -- ACKNOWLEDGMENTS -- REFERENCES.
FIBER OPTIC-COUPLED GRAZING ANGLE PROBE-FOURIER TRANSFORM REFLECTION ABSORPTION INFRARED SPECTROSCOPY FOR ANALYSIS OF ENERGETIC MATERIALS ON SURFACES -- ABSTRACT -- INTRODUCTION -- SAMPLES AND STANDARDS PREPARATION -- INSTRUMENTAL SETUP AND SPECTROSCOPIC PARAMETERS -- SOLVENT SELECTION FOR SURFACE DEPOSITING -- FOC-RAIRS OF NITRO AND NON-NITRO ENERGETIC MATERIALS ON METALLIC SURFACES -- FOC-GAP-RAIRS SPECTRA OF 2,4,6-TNT DEPOSITED ON NON TRADITIONAL SURFACES -- CHEMOMETRICS MODELS AND DISCRIMINANT ANALYSIS -- CONCLUSION -- ACKNOWLEDGMENTS -- REFERENCES -- APPLICATION OF CHEMOMETRIC MODELED FOURIER TRANSFORM INFRARED SPECTROMETRIC DATA FOR DIAGNOSTIC INVESTIGATION OF CANCER VIA TISSUE AND BLOOD ANALYSIS -- ABSTRACT -- INTRODUCTION -- VIBRATIONAL SPECTROSCOPIC FEATURES OF CELL BIOCHEMICALS -- THEORETICAL DESCRIPTION OF APPLIED CHEMOMETRIC TECHNIQUES -- ANALYSIS OF COLON CANCER TISSUE SAMPLES -- Samples, Instruments and Software -- Comparison of Spectral Data for Colon Cancer Tissue Samples -- RESULTS AND DISCUSSIONS -- ANOVA and PCA Results -- LDA Results -- SIMCA Results -- ANALYSIS OF BLOOD SAMPLES FOR CANCER DETECTION -- Samples, Instruments and Software -- Spectrometric Findings -- Results and Discussion -- LDA Results for General Discrimination -- SIMCA Results for BCC Diagnosis -- CONCLUDING REMARKS -- REFERENCES -- SIMULATOR PHOTOREACTOR FOR THE CHEMICAL CHARACTERIZATION OF DIESEL EXHAUST EMISSIONS -- ABSTRACT -- INTRODUCTION -- CHEMICAL TRANSFORMATIONS OF DIESEL EXHAUST EMISSIONS -- A) Primary Diesel Emissions -- B) Atmospheric Transformations of Diesel Exhaust Emissions -- MONITORING OF DIESEL EXHAUST EMISSIONS -- SMOG CHAMBER FOR DIESEL EXHAUST MONITORING -- A) Instrumentation -- B) Smog Chamber Experiment for Exhaust Monitoring -- C) Limitations of Smog Chambers -- DIESEL EXHAUST STUDIES IN SMOG CHAMBERS -- CASE STUDY: MONITORING OF PAHS.
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Sommario/riassunto

Fourier Transform Infrared Spectroscopy (FTIR) is a powerful tool for identifying types of chemical bonds in a molecule by producing an infrared absorption spectrum that is like a molecular 'fingerprint'. This book presents topical research in the field of FTIR including an overview of applications of FTIR spectroscopy.