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Nota di contenuto	Ship diesel engine fault diagnosis using data science and machine learning -- Laser spot thermography for defect detection in composite structure -- Monitoring the technical condition of the marine turbine engines by analysis of rundown resonance parameter -- Theoretical-experimental determination of CVT power losses due to rubber V-belt vibrations -- Dynamic model for simulation of phenomena occurring in

a planetary gear operating in a power transmission system -- Acoustic emission monitoring for wire drawing process -- Cycloidal gearbox model for transient analysis implemented in Fortran with constant time step 2nd order integrator -- Experimental setup for nondestructive testing of composite structures using laser spot thermography -- Neural network-based road surface condition monitor concept -- Method of fault detection of drive systems using features of Park's vector hodograph.

Sommario/riassunto

This book reports on recent theories and methods for diagnostics and condition monitoring of machines, materials and industrial processes, with a special emphasis on the application of artificial intelligence and intelligent control systems. Gathering original contributions to the 7th International Congress on Technical Diagnostics, ICTD2022, held on September 14–16, 2022, in Radom, Poland, this book offers extensive information on the latest trends in machine diagnostics and on IoT, smart sensors and machine learning technology in advanced condition monitoring. It addresses both scientists and professionals and is intended to foster communication and collaborations between the two groups.