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""2.8. The Evolution of Reassignment Wavelet Based Spectrum RMS   X Kurtosis """"""Section 3. The Design of the Virtual Based Automatic Fault Detection System ""; ""3.1. Development of a Single Tasked Data Acquisition Program ""; ""3.2. Implementation of the Reassignment Wavelet Analysis ""; ""3.3. Screen Flow Design and Functionality "";
""3.4. Time Domain Analysis ""; ""3.5. Data Storage and Extraction "";
""3.6. The Layout of the Hardware Configuration ""; ""Section 4. Experiment on Laboratory Machinery Fault   Simulator ""; ""4.1. The Bearing Fault Demonstrator ""
""4.2. The Rolling Element Bearings """"""4.3. Artificially Induced Bearing Defects ""; ""4.4. A Comparison Study of Conventional Wavelet   and Reassignment Wavelet ""; ""4.5. Bearing Fault Detection by Using RMS and Kurtosis ""; ""4.6. Detection of a Normal Condition Signal and Motor Signature ""; ""4.7. The Analysis of the Bearing Signal Collected from a Bearing   with a Ball Defect ""; ""4.8. The Analysis of Bearing Signals Collected from Bearings with   Outer Race and Inner Race Defects ""; ""4.9. Experimental Analysis with Computer Generated Noise Simulation ""
""Section 5. Experiments on Industrial Machines ""

| Sommario/riassunto | Reviews research in the field of fault detection including the introduction of an automatic, effective but simpler-to-use system for fault diagnosis in bearings; the monitoring and diagnosis of discrete event systems using time petri nets; and, fault detection and diagnosis using statistical and soft computing methods. |