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Based Health Monitoring of Engineering Systems
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4.1.3 Approach Based on Force and Acceleration4.1.4 Approaches Based on Conservation of Momentum; 4.1.5 Experimental Test Stand; 4.1.6 Experimental Verification; 4.1.7 Comparison of Approaches; 4.2 Observer Technique for On-Line Load Monitoring; 4.2.1 State-Space Representation of Mechanical Systems; 4.2.2 State Estimation and Observability; 4.2.3 Model-Based Input Estimation; 4.2.4 Unknown Input Observer; 4.2.5 Numerical Examples; 4.3 Off-Line Identification of Dynamic Loads; 4.3.1 Response to Dynamic Loading; 4.3.2 Load Reconstruction; 4.3.3 Optimum Sensor Location; 4.3.4 Numerical Example
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Sommario/riassunto

Smart technologies comprise a dynamic new interdisciplinary research field that encompasses a wide spectrum of engineering applications including, but not limited to, intelligent structures and materials, actuators, sensors and structural observability, control systems and software tools for the design of adaptive structures. Smart technologies focus on the issues surrounding the safety and integrity of engineering systems. Smart Technologies for Safety Engineering presents the achievements of ten years of research from the Smart-Tech Centre applied to some of the key issues of safety