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(Damping, Time-Histories); 4.5 Discussion of the SHM Axioms; 4.6 Safety Assessment; 5 Decision Support Systems; 5.1 Decision Support Systems for SHM; 5.2 Architecture; 5.3 The Operation Modes; 5.4 Monitoring System and Databases; 5.5 Current Status of the System; 5.6 Data Treatment; 5.7 Data Storage; 6 Lifetime Assessment of Bridges 6.1 Lifetime Assessment Procedure6.2 Hot-Spot Detection; 6.3 Statistical Pattern Recognition; 6.4 Application Example: Steel Bridge; 6.5 Ongoing Research and Development Projects; 7 Bridge SHM Methodologies; 7.1 Ambient Vibration Monitoring; 7.2 Deflection and Displacement Monitoring; 7.3 Fatigue Assessment by Monitoring; 7.4 Corrosion, Carbonization, Chlorite Content; 7.5 Load Transfers; 7.6 Material Properties; 8 The Business Case for SHM of Bridges; 8.1 Incentives for SHM of Bridges; 8.2 The Costs of SHM of Bridges; 8.3 The Future of the SHM Business; 8.4 Typical SHM Service Catalogue
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9.15 BridgeZ24, Koppigen-Utzenstorf, Switzerland9.16 Roberval Bridge, Senlis, France; 9.17 Saint-Jean Bridge, Bordeaux, France; 9.18 Øresund Bridge, Denmark - Sweden; 9.19 Ting Kau Bridge, Hong Kong, China; 9.20 Skovdiget Bridge Columns, Denmark; 9.21 Skovdiget Bridge Superstructure, Denmark; 9.22 Bolshoj Moskvoretsky Bridge, Moscow, Russia; 9.23 Versoix Bridge, Geneva, Switzerland; 9.24 Tsing Ma Bridge, Hong Kong, China; 9.25 A14 Huntingdon Railway Viaduct, England; 9.26 Highway Bridge BW91, Germany; 9.27 Herrenbr ucke, L ubeck, Germany; 9.28 Pasir Panjang Semi-Expressway, Singapore
9.29 Pioneer Bridge, Singapore

Sommario/riassunto

Health Monitoring of Bridges prepares the bridge engineering community for the exciting new technological developments happening in the industry, offering the benefit of much research carried out in the aerospace and other industrial sectors and discussing the latest methodologies available for the management of bridge stock. Health Monitoring of Bridges: Includes chapters on the hardware used in health monitoring, methodologies, applications of these methodologies (materials, methods, systems and functions), decision support systems, damage detection systems and t