



Hans G. Natke (Ed.)

# Safety Evaluation Based on Identification Approaches Related to Time-Variant and Nonlinear Structures

Safety evaluation by definition involves many complex factors and thus covers a wide range of topics. In order to focus the content of the workshop the subject matter was specific to the state of the art and the recent developments in nonlinear and time-variant methods employing identification procedures. Participants in the workshop represented a wide range of expertise. They were selected in order to cover the state of the art of knowledge in fault-detection and damage assessment, system identification, signal processing, mathematical and physical modelling and applications of techniques such as fuzzy logic and neural networks. The emphasis was placed on the exploitation and understanding of nonlinearity arising from structural or material faults. Figure 1 indicates the range of topics covered in the workshop. Since no unique or general approach yet exists for treating nonlinearity in the field of safety evaluation, many of the topics presented were problem specific. In order to assist the reader in selecting the material of primary interest a matrix of the topics covered by each participant is shown in Table 1. This table relates the authors to the subject matter, providing a guide through the diverse range of topics presented at the workshop.

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