Mathematical Problems in Engineering

Special Issue on Structural Damage Modelling and Assessment

Call for Papers

Ample research effort has been performed in the last decades being oriented towards developing damage models and numerical procedures for the assessment of structural behaviour, structural degradation, and structural failure under severe static or dynamic loads. These topics are relevant to many fields of civil, structural, earthquake, and wind engineering, health monitoring of structures, and geotechnical engineering.

The main focus of this special issue will be on recent advances in structural damage modelling and assessment with an emphasis on the mathematical description of the nonlinear behaviour of a wide variety of civil engineering materials and structures. This issue should become an international forum for researchers in the field and summarises the scientific results mainly of the last five years. Potential topics include, but are not limited to:

- Methodologies
  - Engineering damage models and indices
  - Damage simulation methods
  - Mathematical approaches to damage detection, localisation, quantification, and evaluation
  - Experimental validation of damage models
  - Artificial intelligent techniques in damage modelling, classification, detection, and mitigation
  - Damage evolution models
  - Mathematical methods in structural health monitoring
  - Damage-based life-time estimation and structural vulnerability
  - Damage-based design
  - Low-damage earthquake-resistant design
- Domains of Applications
  - Civil engineering
  - Structural engineering
  - Earthquake engineering
  - Geotechnical engineering
  - Wind engineering

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Manuscript Due	Friday, 9 August 2013
First Round of Reviews	Friday, 1 November 2013
Publication Date	Friday, 27 December 2013

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