

Scientific publications of Arnaud Deraemaeker

1 Books

- [1] A. Deraemaeker and K. Worden. *New trends in vibration based structural health monitoring*. CISM Lecture Notes Vol 520. Springer, 2010.

2 Book chapter

- [1] C. Dumoulin, G. Karaiskos, and A. Deraemaeker. *Monitoring of Crack Propagation in Reinforced Concrete Beams using Embedded Piezoelectric Transducers*. Acoustic emission and related non-destructive evaluation techniques in the fracture mechanics of concrete: fundamentals and applications. Woodhead, 2015. ISBN: 978-1-78242-327-0.
- [2] C. Dumoulin, G. Karaiskos, and A. Deraemaeker. *Concrete Monitoring using Embedded Piezoelectric Transducers*. Encyclopedia of Earthquake Engineering. Springer, 2014.
- [3] G. Tondreau and A. Deraemaeker. *Spatial filtering for structural health monitoring*. Encyclopedia of Earthquake Engineering. Springer, 2014.
- [4] A. Deraemaeker. *Vibration based structural health monitoring using large sensor arrays: overview of instrumentation and feature extraction based on modal filters*. CISM Lecture Notes Vol 520. Springer, 2010.
- [5] A. Deraemaeker and P. Ladevèze. *CRE Model Updating method in structural dynamics with uncertain measurements*. Inverse Problems in Engineering Mechanics IV. Elsevier, Tanaka-Dulikravich edition, 2003.
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3 Journal papers

- [1] C. Dumoulin and A. Deraemaeker. Design optimization of embedded ultrasonic transducers for concrete structures assessment. *Ultrasonics*, 79:18–33, 2017.
- [2] C. Dumoulin and A. Deraemaeker. Real-time fast ultrasonic monitoring of concrete cracking using embedded piezoelectric transducers. *Smart Materials and Structures*, 2017. accepted.
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5 Invited seminars

- [1] A. Deraemaeker. Monitoring of early age concrete properties and cracking in concrete using embedded piezoelectric transducers. In *Pierson Graduate Seminar*, Lincoln, Nebraska, Jan 2013.
- [2] A. Deraemaeker. Surveillance vibratoire de l'état de santé de structures à partir de grands réseaux de capteurs. In *Séminaire Lamcos*, INSA-Lyon, France, Nov 2011.
- [3] A. Deraemaeker. Research activities in the field of SHM and piezoelectric structures at ULB. In *Internal seminar*, Los Alamos National Labs, New Mexico, USA, Sept 2011.
- [4] A. Deraemaeker. Smart aggregates for the estimation of early age concrete properties : early results. In *Internal seminar*, University of Houston, Texas, USA, Sept 2011.
- [5] A. Deraemaeker. Filtrage spatial pour la détection et la localisation de défauts dans les structures à partir de mesures vibratoires. In *Séminaire FEMTO-ST*, Université de Franche Comté, Besançon, France, May 2011.
- [6] A. Deraemaeker. Modélisation des structures piézoélectriques: transducteurs composites et calcul des forces équivalentes pour des patches de forme quelconque. In *Séminaire CNAM*, Paris, France, Jan 2010.
- [7] A. Deraemaeker. Smart sensors and sensor networks for vibration based shm. In *Sheffield, Deptmt of Mechanical Engineering Seminar*, Sheffield, UK, Nov 2009.
- [8] A. Deraemaeker. Model reduction for coupled electro-acousto-mechanical systems and parametrized systems. In *Workshop on model reduction and control*, Keizerslautern, Germany, May 2007.
- [9] A. Deraemaeker. Structures intelligentes : contrôle actif et contrôle santé en dynamique des structures. In *Séminaire du LMT Cachan*, Paris, France, April 2006.
- [10] A. Deraemaeker. Vers une méthode de validation et de recalage robuste en dynamique des structures. In *Journée d'étude F2AS : Recalage Calculs/Mesures*, Paris, France, March 2003.

6 Thesis

- [1] A. Deraemaeker. *Contributions à l'élaboration de structures intelligentes en dynamique des structures*. PhD thesis, E.N.S. Cachan, 2008. Thèse d'habilitation à diriger des recherches.
- [2] A. Deraemaeker. *Sur la maîtrise des modèles en dynamique des structures à partir de résultats d'essais*. PhD thesis, Université Paris VI, E.N.S. Cachan, LMT-Cachan, 2001.
- [3] A. Deraemaeker. Numerical Solutions of the Helmholtz Equation with Special Emphasis on the Pollution Effect. Master's thesis, Université Libre de Bruxelles, SMC, 1998.