

Prénom : Cédric

Nom : Payan

Liste de Publications 2009-2013 :

C. Payan, T.J. Ulrich, P.Y. Le Bas, T.A. Saleh

Probing materials nonlinearity at various depths by the use of time reversal.
Applied Physics Letters (Under review 2013)

C. Payan, A. Quiviger, V. Garnier, J.F. Chaix, J. Salin

Applying diffuse ultrasound under dynamic loading to improving closed crack characterization in concrete
Journal of the Acoustical Society of America (Under review 2013)

A. Quiviger, A. Girard, C. Payan, J.F. Chaix, V. Garnier, J. Salin

Influence of the depth and morphology of real cracks on diffuse ultrasound in concrete: a simulation study
NDT & E International (Under review 2013)

C. Payan, T.J. Ulrich, P.Y. Le Bas, T.A. Saleh, M. Guimaraes

Linear and Nonlinear Resonance Inspection Techniques and Analysis for damage characterization: Application to thermal damage in concrete.
Journal of the Acoustical Society of America (Under review 2013)

V. Garnier, B. Piwakowski, O. Abraham, G. Villain, C. Payan, J.F. Chaix

Acoustical techniques for concrete evaluation: Improvements, comparisons and consistencies
Construction and Building Materials 43, 598–613 (2013)

Z.M. Sbartai, S. Laurens, S.M. Elachachi, C. Payan

Concrete Evaluation by Statistical Fusion of NDT Techniques,
Construction and Building Materials 37, 943-950 (2012)

A. Quiviger, C. Payan, J.F. Chaix, V. Ganier and J. Salin

Effect of the presence and size of a real macro-crack on diffuse ultrasound in concrete
NDT & E International 45 (1), 128-132 (2012)

C. Payan, V. Garnier and J. Moysan

Determination of nonlinear constants and stress monitoring in concrete by coda waves analysis

European Journal of Environmental and Civil Engineering 15 (4), 519-531 (2011)

M. Cavaro, C. Payan, J. Moysan and F. Baqué

Microbubble cloud characterisation by nonlinear frequency mixing

Journal of the Acoustical Society of America 129 (5), EL179-EL183 (2011)

F. Bouchaala, C. Payan, V. Garnier and J.P. Balayssac

Carbonation Assessment in Concrete by Nonlinear Ultrasound

Cement and Concrete Research 41, 557–559 (2011)

J.-P. Zardan , C. Payan, V. Garnier and J. Salin

Effect of the presence and size of a localized nonlinear source in concrete

Journal of the Acoustical Society of America 128 (1), EL38-EL42 (2010)

C. Payan, V. Garnier and J. Moysan

Potential of nonlinear ultrasonic indicators for NonDestructive Testing of concrete

Advances in Civil Engineering 2010, 238472 (2010)

C. Payan, V. Garnier and J. Moysan

Effect of water saturation and porosity on the nonlinear elastic response of concrete

Cement and Concrete Research 40, 473–476 (2010)

V. Garnier, J.F. Chaix, M. Rossat, C. Payan and G. Corneloup

Nondestructive characterisation of concretes by ultrasonic wave's propagation

Mécanique & Industries 10, 299-303 (2009)

C. Payan, V. Garnier, J. Moysan and P.A. Johnson

Determination of third order elastic constants in a complex solid applying coda wave interferometry

Applied Physics Letters 94, 011904 (2009)

Liste de Communications 2009-2013 :

M. Cavaro, C. Payan and J.P. Jeannot

Towards the bubble presence characterization within the SFR liquid sodium

ANIMMA International Conference, Marseille, France, 23-27 June 2013 [INVITED TALK]

M. Cavaro, C. Payan

Microbubble histogram reconstruction by nonlinear frequency mixing

International Congress on Acoustics (ICA), June 1-7th, Montreal, Canada (2013)

E. Larose, N. Tremblay, C. Payan, V. Garnier, and V. Rossetto
Ultrasonic slow dynamics to probe concrete aging and damage
39th QNDE, 15-20 July 2012, Denver, USA, AIP Conf. Proc. 1511, 1317-1324 (2013)

T.J. Ulrich, B. Anderson, J. Douma, R. Snieder, C. Payan
Improving Time Reversal Focusing Through Deconvolution
17th ICNEM, July 1-7th, Cefalu, Italy (2012). POMA 16, 045015 (2012)

M. Cavaro, C. Payan, S. Mensah, J. Moysan, and J.-P. Jeannot
Linear and nonlinear resonant acoustic spectroscopy of micro bubble clouds
17th ICNEM, July 1-7th, Cefalu, Italy. POMA 16, 045003 (2012)

C. Payan, T.J. Ulrich, P.Y. Le Bas, T. Saleh, M. Guimaraes
Probing materials damage at various depths by use of Time Reversal Elastic Nonlinearity
Diagnostic: Application to concrete.
17th ICNEM, July 1-7th, Cefalu, Italy (2012). POMA 16, 045013 (2012)

A. Quiviger, C. Payan, J.-F. Chaix, V. Garnier, J. Salin
Macro-crack characterization in concrete by diffuse ultrasound under low frequency
dynamic loading
17th ICNEM, July 1-7th, Cefalu, Italy (2012). POMA 16, 045016 (2012)

V. Garnier, A Quiviger, C. Payan, Jean-François Chaix, J Salin
Non Linear Acoustic Applied to the Concrete Study
Acoustics 2012, April 23-27, Nantes, France, HAL 00811375 (2012)

C. Payan, T.J. Ulrich, P.-Y. Le Bas and M. Guimaraes,
Probing materials damage at various depths by use of Time Reversal Elastic Nonlinearity
Diagnostic: Application to concrete
Acoustics 2012, April 23-27, Nantes, France, HAL 00810940 (2012)

C. Payan, T.J. Ulrich, P.-Y. Le Bas and M. Guimaraes,
Quantitative linear and nonlinear resonant inspection techniques for characterizing thermal
damage in concrete
Acoustics 2012, April 23-27, Nantes, France, HAL 00810938 (2012)

C. La Rocca, J. Moysan and C. Payan
Characterization of an epoxy bonded aluminum alloy sample applying dynamic acousto
elastic testing

REVIEW OF PROGRESS IN QUANTITATIVE NONDESTRUCTIVE EVALUATION: Volume 31. AIP Conference Proceedings, Volume 1430, pp. 1261-1267 (2012).

A. Quiviger, C. Payan, J.-F. Chaix, V. Garnier, J.-P. Zardan, J. Salin

Non Destructive characterization of cracks in concrete by ultrasonic auscultation of civil engineering structures

7th SFEN International Symposium, paper n°A121-T10, Fontevraud, 26-30 septembre 2010

C. La Rocca, C. Payan and J. Moysan

Evaluation of epoxy bonded joint quality using nonlinear acoustics

XV ICNEM Otranto, Italy, 4 - 10 July 2010, Proceedings of Meetings on Acoustics 10, 045001 (2010)

A. Quiviger, J.P. Zardan, C. Payan, J.F. Chaix, V. Garnier, J. Moysan and J. Salin

Macro crack characterization by linear and nonlinear ultrasound in concrete

XV ICNEM Otranto, Italy, 4 - 10 July 2010, Proceedings of Meetings on Acoustics 10, 045003(2010)

F. Bouchaala, C. Payan and V. Garnier

Effect of carbonation on the nonlinear response of concrete

XV ICNEM Otranto, Italy, 4 - 10 July 2010, Proceedings of Meetings on Acoustics 10, 045002 (2010)

M. Cavaro, J. Moysan, G. Corneloup, C. Gueudre, C. Payan, F. Baque, G. Prele, J. Sibilo

Towards in-service acoustic characterization of gaseous microbubbles applied to liquid sodium

ANIMMA International Conference, Marseille, France, 7-10 June 2009.
<http://dx.doi.org/10.1109/ANIMMA.2009.5503768>

C. Payan, V. Garnier, J. Moysan and P. Johnson

Determination of nonlinear elastic constants and stress monitoring in concrete by coda waves analysis

NDTCE'09, Non-Destructive Testing in Civil Engineering, Nantes, France, June 30th – July 3rd, 2009

V. Garnier, J.F. Chaix, C. Payan

Improvement of new wave propagation techniques to characterize concrete

NDTCE'09, Non-Destructive Testing in Civil Engineering, Nantes, France, June 30th – July 3rd, 2009

M. Cavaro, J. Moysan, C. Payan, C. Gueudré, G. Corneloup, and F. Baqué

Towards nonlinear ultrasonic characterization of air microbubbles in water
XIV ICNEM, 1 - 5 June 2009, Lisbon, Portugal. Full paper : POMA 7, 045005 (2009).

Collaborations (nationales et/ou internationales) avec d'autres laboratoires de Recherche :

Collaboration avec Le Los Alamos National Laboratory (LANL, USA) :

-Séjour invité 6 mois (CRCT) en 2011

-Accueil 4 mois de Pierre Yves Le Bas (LANL) au LMA février-juin 2013

Brevet :

M. Cavaro, C. Payan

Method Of Determining Void Rate By Nonlinear Acoustic Resonance Spectrometry In A
Biphase Medium And Application In A Nuclear Reactor

WO/2011/141370

2nd prix du concours University Challenge pour un TP réalisé pour l'IUT d'Aix, département
HSE.

F. Falco & C. Payan, *Evaluation des Risques, Nuisances Sonores, Vibration Corporelles*,
Journée faites de la mesure, Mennecy, France (2009)

3^{ième} prix du concours University Challenge pour un TP fait pour les étudiants de MasterII
concernant le CND du béton par ultrasons.

C. Payan, JF Chaix, F. Falco, *Contrôle de l'état de santé des structures en béton par
méthodes acoustiques et vibratoires*, Colloque vibrations, chocs et bruits, June 15-
17th, Lyon, France (2010)