

Liste des publications et communications

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Mise à jour le 26 avril 2017

Articles dans des revues à comité de lecture

- [1] Inverse Wave Scattering of Rough Surfaces with Emitters and Receivers in the Transition Zone, S. Arhab, G. Soriano, *Progress In Electromagnetics Research M*, Vol. 45, pp131-141, 2016
- [2] Analogies between optical propagation and heat diffusion: applications to microcavities, gratings and cloaks, C. Amra, D. Petiteau, M. Zerrad, S. Guenneau, G. Soriano, B. Gralak, M. Bellieud, D. Veynante, N. Rolland, *Proc. R. Soc. A* 471: 20150143, 2015
- [3] Speckle intensity statistics for chromatic scattering media under partially polarized illumination, G. Soriano, M. Zerrad, C. Amra, *Optics Express* (23), pp20796-20803, 2015
- [4] Spatial depolarization of light from the bulks: electromagnetic prediction, M. Zerrad, H. Tortel, G. Soriano, A. Ghabbach, C. Amra, *Optics Express* (23), pp8246-8260, 2015
- [5] Polarization analysis of speckle field below its transverse correlation width : application to surface and bulk scattering, J. Dupont, X. Orlik, A. Ghabbach, M. Zerrad, G. Soriano, C. Amra, *Optics Express* (22), pp24133-24141, 2014
- [6] Depolarization and enpolarization DOP histograms measured for surface and bulk speckle patterns, A. Ghabbach, M. Zerrad, G. Soriano, S. Liukaityte, C. Amra, *Optics Express* (22), pp21427-21440, 2014
- [7] Accurate metrology of polarization curves measured at the speckle size of visible light scattering, A. Ghabbach, M. Zerrad, G. Soriano, C. Amra, *Optics Express* (22), pp14594-14609, 2014
- [8] Enpolarization and depolarization of light scattered from chromatic complex media, G. Soriano, M. Zerrad, C. Amra, *Optics Express* (22), pp12603-12613, 2014
- [9] Rigorous simulations of microwave scattering from finite conductivity two-dimensional sea surfaces at low-grazing angles, D. Miret, G. Soriano, M. Saillard, *IEEE Trans. Geoscience Remote Sensing*, vol. 52, pp3150-3158, 2014
- [10] Sea surface microwave scattering at extreme grazing angle: numerical investigation of the Doppler shift, D. Miret, G. Soriano, F. Nouguier, P. Forget, M. Saillard, C.-A. Guerin, *IEEE Trans. Geoscience Remote Sensing*, vol. 52, pp7120-7129, 2014
- [11] Nanometric resolution with far-field optical profilometry, S. Arhab, G. Soriano, Y. Ruan, G. Maire, A. Talneau, D. Sentenac, P. Chaumet, K. Belkebir, H. Giovannini, *Phys. Rev. Lett* (111), 053902, 2013
- [12] Light enpolarization by disordered media under partial polarized illumination: the role of cross-scattering coefficients, M. Zerrad, G. Soriano, A. Ghabbach, C. Amra, *Optics Express* (21), pp 2787–2794, 2013
- [13] Mapping the coherence time of far-field speckle scattered by disordered media, G. Soriano, M. Zerrad, C. Amra, *Optics Express* (21), pp 24191–24200, 2013
- [14] Full polarization optical profilometry, S. Arhab, G. Soriano, K. Belkebir, H. Giovannini, *J. Opt. Soc. Amer. A* (29), pp1508-15, 2012
- [15] Enpolarization of light by scattering media, J. Sorrentini, M. Zerrad, G. Soriano, C. Amra, *Optics Express* (19), pp21313-20, 2011
- [16] Rough surface scattering at grazing incidence: a dedicated model, G. Soriano, M. Saillard, *Radio Science* (46), RS0E13, 2011

- [17] Analytical techniques for the Doppler signature of sea surfaces in the microwave regime - I: linear surfaces, F. Nouguier, C.-A. Guérin, G. Soriano, IEEE Trans. Geoscience and Remote Sensing (49), pp4856-64, 2011
- [18] Analytical techniques for the Doppler signature of sea surfaces in the microwave regime - II: nonlinear surfaces, F. Nouguier, C.-A. Guérin, G. Soriano, IEEE Trans. Geoscience and Remote Sensing (49), pp4920-27, 2011
- [19] Full wave optical profilometry, S. Arhab, G. Soriano, K. Belkebir, A. Sentenac, H. Giovannini, J. Opt. Soc. Amer. A (28), pp 576-580, 2011
- [20] Gradual loss of polarization in light scattered from rough surfaces: Electromagnetic prediction, M. Zerrad, J. Sorrentini, G. Soriano and C. Amra, Optics Express (18), pp 15832-15843, 2010
- [21] Low-grazing angles scattering of electromagnetic waves from one-dimensional natural surfaces: rigorous and approximate theories, G. Soriano, P. Spiga, M. Saillard, C. R. Physique (11), pp77-86, 2010
- [22] The Weighted Curvature Approximation in scattering from sea surfaces, C.-A. Guérin, G. Soriano, Waves in Random and Complex Media (20), pp363-384, 2010
- [23] Scattering of electromagnetic waves from rough surfaces: a boundary integral method for low-grazing angles, P. Spiga, G. Soriano, M. Saillard, IEEE Trans. Antennas Propag. (56), pp2043-2050, 2008
- [24] A cut-off invariant two-scale model in electromagnetic scattering from sea surfaces, G. Soriano, C.-A. Guérin, IEEE Geophys. Remote Sensing Letters (5), pp199-203, 2008
- [25] Doppler spectrum from two-dimensional ocean surface at microwave frequency, G. Soriano, M. Joelson, M. Saillard, IEEE Trans. Geoscience and Remote Sensing (44), pp2430-2437, 2006
- [26] Sea surface probing with L-band Doppler radar: experiment and theory, M. Saillard, P. Forget, G. Soriano, M. Joelson, P. Broche, P. Currier, C.R. Physique (6), pp: 675-682, 2005
- [27] Weighted Curvature Approximation: numerical tests for 2D dielectric surfaces, C.-A. Guérin, T. Elfouhaily, G. Soriano, Waves in Random Media (14), p349-363, 2004
- [28] Fast numerical solution for scattering from rough surfaces with small slopes, M. Saillard, G. Soriano, IEEE Trans. Antennas Propag. (52), pp2799-2801, 2004
- [29] Modelization of the scattering of electromagnetic waves from the ocean surface, G. Soriano, M. Saillard, Progress In Electromagnetic Research X, Chapter 4, pp102-128, EMW Publishing, 2003
- [30] Scattering by two-dimensional rough surfaces: comparison between the Method of Moments, the Kirchhoff and the Small-Slope Approximation, G. Soriano, C.-A. Guérin, M. Saillard, Waves in Random Media (12), p63, 2002
- [31] Scattering of electromagnetic waves from two-dimensional rough surfaces with impedance approximation, G. Soriano, M. Saillard, J. Opt. Soc. Amer. A (18), pp124-133, 2001

Autres publications

- [32] Modélisation électromagnétique : applications à la télédétection océanique et à la diffusion optique, Gabriel Soriano, Habilitation à Diriger des Recherches, Aix-Marseille Université, France, 2014
- [33] Scattering from rough surface with small slopes, Soriano G., Saillard M., Wave Propagation, Scattering and Emission in Complex Media, pp128-133, Editor Ya-Qiu Jin, Science Press and World Scientific, 2004
- [34] Simulation of microwave scattering from wind-driven ocean surfaces, Xia M.Y., Chan C.H., Soriano G., Saillard M., Wave Propagation, Scattering and Emission in Complex Media, pp139-150, Editor Ya-Qiu Jin, Science Press and World Scientific, 2004
- [35] Etude de la diffraction électromagnétique par des surfaces rugueuses bidimensionnelles, G. Soriano, dir. M. Saillard, thèse de Physique, Université Paul Cezanne Aix-Marseille, France, 2001
- [36] Méthodes numériques pour les problèmes de diffraction à grand nombre de degrés de liberté, G. Soriano, dir. M. Saillard et P. Vincent, rapport de stage pour le DEA d'Optique, Image, Signal, Université Paul Cezanne Aix-Marseille, France, 1996

Conférences invitées

- [37] S. Arhab, G. Soriano, K. Belkebir, A. Sentenac, and H. Giovannini, High resolution optical profilometry using diffractive tomographic microscopy, Progress in Electromagnetics Research Symposium, Marrakesh, March 2011
- [38] G. Soriano, C.-A. Guérin, M. Saillard, Microwave Ocean Scattering at Low-Grazing Angles with the GMoM, European radar Conference, Paris, September 2010
- [39] P. Spiga, G. Soriano, M. Saillard, Modelling surface scattering at grazing incidence, International Radar Conference, Bordeaux, October 2009
- [40] P. Spiga, G. Soriano, M. Saillard, Scattering from rough surfaces at low-grazing angles: rigorous solution for local perturbation of a plane interface, Asian Pacific Microwave Conference, Hong Kong, December 2008
- [41] M. Saillard, G. Soriano, Approximate boundary integral equations for time-harmonic rough surface scattering, International Workshop on Wave Propagation, Scattering and Emission, Shanghai, June 2003
- [42] M. Saillard, G. Soriano, C. A. Guérin, Rough surface scattering: comparison of approximate methods with a boundary integral method, URSI National Radio Science Meeting 102.5, Columbus, Ohio, June 2003
- [43] M. Y. Xia, C. H. Chan, L. Tsang, M. Saillard , G. Soriano, Recent developments on 3D modeling of random rough surfaces, International Union of Radio Science 17th General Assembly, Maastricht, August 2002
- [44] G. Soriano, M. Saillard, An improved bistatic two-scale model for the ocean surface scattering, International Union of Radio Science 17th General Assembly, Maastricht, August 2002

Communications internationales

- [45] G. Soriano, M. Zerrad, and C. Amra, Partially polarized speckle of light scattered from depolarizing media, Frontiers in Optics, October 2016, Rochester
- [46] C. Amra, M. Zerrad and G. Soriano, Probing spatial disorder with light polarization, Frontiers in Optics, October 2016, Rochester
- [47] G. Soriano, M. Zerrad, and C. Amra, A spectral model for the speckle temporal coherence, META, July 2016, Malaga
- [48] S. Arhab, M. Joelson and G. Soriano, Reconstruction of surface profiles by iterative Newton-Kantorovich's method, 4th Workshop on Remote Sensing and Modelling of Surface Properties, Saint Martin d'Hères, March 2016
- [49] G. Soriano, M. Zerrad, X. Orlik, A. Ghabbach, S. Liukaityte, J. Dupont, and C. Amra, Light Enpolarization and Depolarization: Bulk and Surface Scattering, Progress In Electromagnetics Research Symposium, July 2015, Prague
- [50] A. Alwakil, G. Soriano, K. Belkebir, H. Giovannini, S. Arhab, Direct and Iterative Inverse Wave Scattering Methods for Time-Harmonic Far-Field Profilometry, IEEE International Conference on Antenna Measurements & Applications, November 2014, Antibes Juan-les-pins
- [51] H. Tortel, M. Zerrad, C. Amra and G. Soriano, Spatial depolarization of light from 2D bulk scattering: electromagnetic prediction of transitions, USNC-URSI Radio Science Meeting, July 2014,
- [52] S. Angelliaume, V. Fabbro, G. Soriano, C.-A. Guérin, The GO-SSA extended model for all-incidence sea clutter modeling, International Geoscience and Remote Sensing Symposium, July 2014, Quebec
- [53] D. Miret, P. Spiga, G. Soriano, M. Saillard, Modelization of low-grazing angles microwave sea surface scattering cross-section, OCOSS, September 2013, Nice
- [54] G. Soriano, M. Zerrad, C. Amra, The temporal coherence of light altered by scattering, Correlation Optics, Chernivtsi, September 2013
- [55] D. Miret, G. Soriano, M. Saillard, F. Nouguier, C.-A. Guérin, The locally perturbated model for the scattering of electromagnetic waves from finite conductivity two-dimensional rough surfaces, IEEE International Symposium on Antennas and Propagation, July 2013, Orlando

- [56] D. Miret, G. Soriano, M. Saillard, F. Nouguier, C.-A. Guérin, Modelization of microwave Doppler spectrum from nonlinear ocean profiles at grazing angles, IEEE International Symposium on Antennas and Propagation, July 2013, Orlando
- [57] G. Soriano, D. Miret, Numerical simulation of nonlinear sea surface microwave remote sensing, International Geoscience and Remote Sensing Symposium, Munich, July 2012
- [58] D. Miret, M. Saillard, G. Soriano, Numerical simulation of sea surface microwave remote sensing at grazing incidence, International Geoscience and Remote Sensing Symposium, Munich, July 2012
- [59] G. Soriano, F. Nouguier, C.-A. Guérin, Analytical prediction of the polarized Doppler spectrum from nonlinear ocean surface at microwave frequency, International Union of Radio Science 30th General Assembly and Scientific Symposium, Istanbul, August 2011
- [60] S. Arhab, G. Soriano, K. Belkebir, H. Giovannini, Reconstruction of a rough surface profile with an iterative method based on a rigorous direct wave scattering model, International Union of Radio Science 30th General Assembly and Scientific Symposium, Istanbul, August 2011
- [61] V. Brissonneau, L. Escoubas, G. Soriano, F. Flory, G. Maire, and G. Berginc, Design and Fabrication of Random Optical Surfaces by a Modified Speckle-based Method, Progress in Electromagnetics Research Symposium, Marrakesh, March 2011
- [62] M. Saillard, G. Soriano, Scattering from Rough Surfaces at Low Grazing Incidence, 4th European Conference on Antennas and Propagation, Barcelona, April 2010
- [63] G. Soriano, M. Saillard, C.-A. Guérin, Computational issues in microwave emissivity of the sea surface, PASSIVE'08 , Hyères, October 2008
- [64] G. Soriano, C.-A. Guérin, A cut-off invariant two-scale model in electromagnetic scattering from sea surfaces, North America Radio Science Meeting, Ottawa, July 2007
- [65] G. Soriano, M. Saillard, M. Joelson, Computation of Doppler spectra in the microwave range: which model for sea surface?, IGARSS'07, Barcelona, July 2007
- [66] M. Saillard, P. Forget, G. Soriano, M. Joelson, P. Broche, P. Currier, Probing sea surface with L-band Doppler radar, 2006 EGU meeting, Vienna, April 2006
- [67] G. Soriano, M. Saillard, The Small Slope Integral Equation and some applications, 2005 IEEE AP-S international symposium and USNC/URSI national radio science meeting, Washington, July 2005
- [68] N. Reul, Guerin C.-A., Soriano G., Bachelier E., Borderies P., Mattia F., Ruiz C., Flourey N., On the use of rigorous microwave interactions models to support remote sensing of natural surfaces, Geoscience and Remote Sensing Symposium, 2005
- [69] G. Soriano, M. Joelson, M. Saillard, Two-dimensional ocean surface Doppler Spectrum at microwave frequency and grazing angle, Progress in Electromagnetics Research Symposium, Pisa, March 2004
- [70] M. Saillard, G. Soriano, Approximate solution for scattering from random rough surface with small slopes, International Geoscience and Remote Sensing Symposium, Toulouse, July 2003
- [71] Soriano G., Saillard M., Scattering from rough surface with small slopes, International Workshop on Wave Propagation, Scattering and Emission, Shangaï, 2003, annulé pour cause de SRAS
- [72] Xia M.Y., Chan C.H., Soriano G., Saillard M., Simulation of microwave scattering from wind-driven ocean surfaces, International Workshop on Wave Propagation, Scattering and Emission, Shangaï, 2003, annulé pour cause de SRAS
- [73] G. Soriano, C.-A. Guérin, M. Saillard, Scattering by two-dimensional rough surfaces: comparison between moment method and small-slope approximation, 2001 USNC/URSI National Radio Science Meeting, Boston, July 2001
- [74] G. Soriano, C.-A. Guérin, M. Saillard, Scattering by two-dimensional rough surfaces: comparison between moment method and small-slope approximation, EOS TOPICAL MEETING : ELECTROMAGNETIC OPTICS 2 , Paris, August 2001
- [75] G. Soriano, M. Saillard, Rigorous solution of scattering by two-dimensional randomly rough surfaces, Progress in Electromagnetics Research Symposium, Cambridge, July 2000
- [76] G. Soriano, M. Saillard, Rigorous solution of scattering by two-dimensional randomly rough surfaces, International Union of Radio Science 16th General Assembly, Toronto, Aug. 1999

- [77] M. Saillard, G. Soriano, Rigorous solution of scattering by randomly rough surfaces: recent contributions to open problems, 18th Congress of the International Commission for Optics, San Francisco, Aug. 1999

Communications nationales

- [78] G. Soriano, S. Arhab, Y. Ruan, G. Maire, A. Talneau, D. Sentenac, P. Chaumet, K. Belkebir, H. Giovannini, Vers une résolution latérale nanométrique en profilométrie optique à champ lointain, Assemblée Générale du GdR Ondes, Dijon, Octobre 2013
- [79] G. Soriano, M. Zerrad, C. Amra, Une cartographie de la cohérence temporelle du speckle diffracté par un milieu désordonné, Assemblée Générale du GdR Ondes, Dijon, Octobre 2013
- [80] G. Soriano, M. Zerrad, C. Amra, Effet de la diffusion par un milieu désordonné sur la cohérence temporelle et la polarisation du speckle, Journée EPOS 2, Novembre 2013, Marseille
- [81] D. Miret, G. Soriano, The Method of Moments for the microwave scattering from weakly nonlinear ocean surfaces, Numelec, Juillet 2012, Marseille
- [82] D. Miret, G. Soriano, J.-M. Elissalt, M. Saillard, Modélisation de la diffraction des microondes pour la télédétection océanique en incidence rasante, Assemblée générale du GdR Ondes, Nice, Octobre 2011
- [83] C.-A. Guérin, G. Soriano, B. Chapron, Recent progresses in the modeling of microwave sea radar return at non-grazing incidence, Observation des Côtes et des Océans : Senseurs et Systèmes Brest, juin 2010
- [84] G. Soriano, P. Spiga, M. Saillard, Diffraction par des surfaces rugueuses aux angles rasants : calculs rigoureux et approchés, Assemblée générale du GdR Ondes, Paris, Novembre 2009
- [85] P. Spiga, G. Soriano, M. Saillard, Modélisation numérique pour la télédétection des surfaces naturelles aux angles rasants, Journées URSI France, Paris, Mai 2009
- [86] G. Soriano, P. Spiga, M. Saillard, Interaction onde-surface rugueuse en incidence rasante, Assemblée générale du GdR Ondes, Pessac, Novembre 2007
- [87] M. Saillard, G. Soriano, Interaction onde électromagnétique - onde de gravité, Assemblée générale du GdR Ondes, Pessac, Novembre 2007
- [88] G. Soriano, M. Saillard, C.-A. Guérin, Diffraction électromagnétique par des surfaces naturelles aux fréquences micro-ondes : simulations numériques pour la validation des méthodes approchées, Colloque de bilan et prospective du PNTS BRGM, Orléans, Avril 2005