

PUBLICATIONS

Original papers

- [1] Pablo Sanchis, Pablo Villalba, Francisco Cuesta, **Andreas Håkansson**, Amadeu Griol, José V. Galán, Antoine Brimont, and Javier Martí “Highly efficient crossing structure for silicon-on-insulator waveguides,” *Optics Letter* 34, 2760 (2009)
- [2] Alejandro Martínez, Raquel García, **Andreas Håkansson**, Miguel A. Piqueras, and José Sánchez-Dehesa “Electromagnetic beaming from omnidirectional sources by inverse design”, *Appl. Phys. Lett.* Vol. 92 051105 (2008)
- [3] **Andreas Håkansson** and Hideki T. Miyazaki, “Inverse Design of Microelectromechanically Controlled Scattering Optical Elements”, *Japanese Journal of Applied Physics*, Vol. 46, No. 24, 2007, pp. L580–L583 (2007)
- [4] **Andreas Håkansson**, Daniel Torrent, Francisco Cervera, and José Sánchez-Dehesa, “Directional acoustic source by scattering acoustical elements”, *Appl. Phys. Lett.* Vol. 90, 224107 (2007)
- [5] **Andreas Håkansson**, “Cloaking of objects from electromagnetic fields by inverse design of scattering optical elements”, *Optics Express* 15, 4328 (2007)
- [6] **Andreas Håkansson**, Hideki T. Miyazaki, and José Sánchez-Dehesa, “Full Control of Spontaneous Emission using Inverse Designed Light Emitting Scattering Optical Elements”, *Phys. Rev. Lett.* 96, 153902 (2006)
- [7] **Andreas Håkansson**, José Sánchez-Dehesa, and Francisco Cervera, “Experimental realization of sonic demultiplexing devices based on inverse-designed scattering acoustic elements”, *Appl. Phys. Lett.* 88, 163506 (2006)
- [8] Daniel Torrent, **Andreas Håkansson**, Francisco Cervera and José Sánchez-Dehesa, “Homogenization of Two-Dimensional Clusters of Rigid Rods in Air”, *Phys. Rev. Lett.* 96, 204302 (2006)
- [9] **Andreas Håkansson** and José Sánchez-Dehesa, “Optimal design of microscaled optical elements”, *Appl. Phys. Lett.* Vol. 87, 193506 (2005)
Other appearances: This work was reviewed in EUROPHOTONICS December/January 2006 Issue.
- [10] **Andreas Håkansson**, Pablo Sanchis, José Sánchez-Dehesa, and Javier Martí, “High efficiency defect-based photonic-crystal-tapers designed by a genetic algorithm”, *Journal of Lightwave Technology*, Vol 23 (11), pp. 3881-3888 (2005)
- [11] **Andreas Håkansson** and José Sánchez-Dehesa, “Inverse designed photonic crystal demultiplex waveguide coupler” *Optics Express* 13, 5440-5449 (August-2005)
- [12] **Andreas Håkansson**, José Sánchez-Dehesa and Lorenzo Sanchis, “Inverse design of photonic crystal devices”, *IEEE J. Sel. Area Comm* 23 (7): 1365-1371 (2005).
- [13] **Andreas Håkansson**, Francisco Cervera, and José Sánchez-Dehesa, “Sound focusing by flat acoustic lenses without negative refraction”, *Appl. Phys. Lett.* Vol. 86, Art. No. 054102, pp. 1-3 (2005),
Other appearances: This work was reviewed in Technology Research News (<http://www.trnmag.com>), Issue: February 9/16, 2005, “Rod arrays focus sound”
- [14] **Andreas Håkansson**, José Sánchez-Dehesa, Francisco Cervera, Francisco Meseguer, Lorenzo Sanchis and Jaime Linares, “Comment on ‘Theory of tailoring sonic devices: Diffraction dominates over refraction’”, *Phys. Rev. E.*, Vol. 71, Art. No. 018601, pp. 1-2 (2005)
- [15] **Andreas Håkansson**, José Sánchez-Dehesa and Lorenzo Sanchis, “Acoustic lens design by genetic algorithms”, *Phys. Rev. B.*, Vol. 70, Art. No 214302, pp. 1-9 (2004)
- [16] Betsabe Manzanares-Martínez, José Sánchez-Dehesa, **Andreas Håkansson**, Francisco Cervera and Felipe Ramos-Mendieta, Experimental evidence of omnidirectional elastic

bandgap in finite one-dimensional phononic systems, Appl. Phys. Lett., Vol. 85, No. 1, pp.154-156 (2004),

Other appearances: This paper was selected to appear in Virtual J. of Nanoscale Science & Technology.

- [17] Lorenzo Sanchis, **Andreas Håkansson**, Daniel López-Zanón, Jorge Bravo-Abad, and José Sánchez-Dehesa, “Integrated optical devices design by genetic algorithm”, Appl. Phys. Lett., Vol. 84, No. 22, pp. 4460-4462 (2004)
- [18] Lorenzo Sanchis, **Andreas Håkansson**, Francisco Cervera and José Sánchez-Dehesa, “Acoustic interferometers based on two-dimensional arrays of rigid cylinders in air”, Phys. Rev. B, Vol. 67, Art. No. 035422, pp.1-11 (2003)

Patents

- [19] J. Sánchez-dehesa, **A. Håkansson** and L. Sanchis., “Convertidor óptico” Spanish patent, Application No.:P200301614 (7), Filing Date: September 01, 2005
- [20] P. Villalba, F. Cuesta , **A. Håkansson**, “Estructura de cruce entre guías fotónicas integradas, Application No.: 200803762, Filing Date: December 12th, 2008
- [21] **A Håkansson**, R Sambaraju, “Enlaces inalámbricos digitales con modulación de fase multinivel basados en fotónica,” Application No.:200930317, Filing Date June 22nd, 2009