

List of Publications

Lauri Savioja, D.Sc.(Tech.)

A. Peer-reviewed scientific articles

- [1] S. Bilbao, B. Hamilton, J. Botts, and L. Savioja, ‘Finite volume time domain room acoustics simulation under general impedance boundary conditions,’ *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, vol. 24, pp. 161–173, jan 2016.
- [2] L. Savioja and U. P. Svensson, ‘Overview of geometrical room acoustic modeling techniques,’ *The Journal of the Acoustical Society of America*, vol. 138, pp. 708–730, aug 2015.
- [3] J. Botts and L. Savioja, ‘Extension of a spectral time-stepping domain decomposition method for dispersive and dissipative wave propagation,’ *The Journal of the Acoustical Society of America*, vol. 137, pp. EL267–EL273, apr 2015.
- [4] K. Saksela, J. Botts, and L. Savioja, ‘Optimization of absorption placement using geometrical acoustic models and least squares,’ *The Journal of the Acoustical Society of America*, vol. 137, pp. EL274–EL280, apr 2015.
- [5] V. Välimäki, A. Franck, J. Ramo, H. Gamper, and L. Savioja, ‘Assisted listening using a headset: Enhancing audio perception in real, augmented, and virtual environments,’ *IEEE Signal Processing Magazine*, vol. 32, pp. 92–99, mar 2015.
- [6] J. Belloch, J. Parker, L. Savioja, A. Gonzalez, and V. Välimäki, ‘Dynamic range reduction of audio signals using multiple allpass filters on a GPU Accelerator,’ in *Proc. European Signal Processing Conf. (EU-SIPCO)*, (Lisbon, Portugal), p. WE.P3, 2014.
- [7] J. Botts and L. Savioja, ‘Spectral and pseudospectral properties of finite difference models used in audio and room acoustics,’ *IEEE/ACM Trans. on Audio, Speech, and Language Processing*, vol. 22, pp. 1403–1412, sep 2014.
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- [10] J. Belloch, B. Bank, L. Savioja, A. Gonzalez, and V. Välimäki, ‘Multi-channel IIR filtering of audio signals using a GPU,’ in *2014 IEEE Int. Conf. on Acoustics, Speech and Signal Processing (ICASSP)*, pp. 6692–6696, IEEE, may 2014.
- [11] P. Robinson, S. Siltanen, T. Lokki, and L. Savioja, ‘Concert hall geometry optimization with parametric modeling tools and wave-based acoustic simulations,’ *Building Acoustics*, vol. 21, no. 1, pp. 55–64, 2014.
- [12] D. Murphy, A. Southern, and L. Savioja, ‘Source excitation strategies for obtaining impulse responses in finite difference time domain room acoustics simulation,’ *Applied Acoustics*, vol. 82, pp. 6–14, aug 2014.
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- [14] J. Botts and L. Savioja, ‘Integrating finite difference schemes for scalar and vector wave equations,’ in *IEEE Int. Conf. Acoust., Speech, Signal Processing*, (Vancouver, BC, Canada), 2013.
- [15] S. Siltanen, A. Southern, and L. Savioja, ‘Finite-difference time domain method source calibration for hybrid acoustics modeling,’ in *IEEE Int. Conf. Acoust., Speech, Signal Processing*, (Vancouver, BC, Canada), 2013.
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B. Non-refereed scientific articles

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- [16] T. Lokki and L. Savioja, 'State-of-the-art in auralization of concert hall models – what is still missing?,' in *Baltic-Nordic Acoustics Meeting*, (Reykjavik, Iceland), 2008.
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