

# SEZNAM VĚDECKÝCH A ODBORNÝCH PRACÍ

DOC. ING. ZBYNĚK KOLDOVSKÝ, PH.D.

## ČASOPISY

- [1] Z. Koldovský and P. Tichavský, "Gradient Algorithms for Complex Non-Gaussian Independent Component/Vector Extraction, Question of Convergence," v recenzním řízení, arXiv:1803.10108[eess.SP]
- [2] Z. Koldovský and F. Nesta, "Performance Analysis of Source Image Estimators in Blind Source Separation," *IEEE Transactions on Signal Processing*, vol. 65, no. 16, pp. 4166-4176, August 2017.
- [3] Z. Koldovský, J. Málek, and S. Gannot, "Spatial Source Subtraction Based on Incomplete Measurements of Relative Transfer Function," *IEEE/ACM Trans. on Speech, Audio and Language Processing*, vol. 23, no. 8, pp. 1335 - 1347, August 2015.
- [4] Z. Koldovský, P. Tichavský, A. H. Phan, and A. Cichocki, "A Two-Stage MMSE Beamformer for Underdetermined Signal Separation," *IEEE Signal Processing Letters*, Vol. 20, No. 12, pp. 1227-1230, Dec. 2013.
- [5] Z. Koldovský, J. Málek, P. Tichavský, and F. Nesta, "Semi-blind Noise Extraction Using Partially Known Position of the Target Source", *IEEE Trans. on Speech, Audio and Language Processing*, vol. 21, no. 10, pp. 2029-2041, Oct. 2013.
- [6] P. Tichavský, A. H. Phan, and Z. Koldovský, "Cramér-Rao-Induced Bounds for CANDECOMP/PARAFAC Tensor Decomposition," *IEEE Transactions on Signal Processing*, Vol. 61, No. 8, pp. 1986-1997, ISSN: 1053-587X, April 2013.
- [7] P. Tichavský and Z. Koldovský, "Fast and accurate methods of independent component analysis: A Survey," *Kybernetika*, Vol. 47, No. 3, pp. 426--438, June 2011.
- [8] P. Tichavský and Z. Koldovský, "Weight Adjusted Tensor Method for Blind Separation of Underdetermined Mixtures of Nonstationary Sources," *IEEE Trans. on Signal Processing*, Vol. 59, No. 3, pp. 1037-1047, ISSN:1053-587X, March 2011.
- [9] Z. Koldovský and P. Tichavský, "Time-Domain Blind Separation of Audio Sources on the basis of a Complete ICA Decomposition of an Observation Space", *IEEE Trans. on Speech, Audio and Language Processing*, Vol. 19, No. 2, pp. 406-416, ISSN 1558-7916, February 2011.
- [10] Z. Koldovský, J. Málek, P. Tichavský, Y. Deville, and S. Hosseini, "Blind Separation of Piecewise Stationary NonGaussian Sources", *Signal Processing*, Volume 89, Issue 12, Pages 2570-2584, ISSN 0165-1684, December 2009.
- [11] P. Tichavský, Z. Koldovský, and E. Oja, "Corrections to 'Performance Analysis of the FastICA Algorithm and Cramer-Rao Bounds for Linear Independent Component Analysis' TSP 04/06," *IEEE Tr. Signal Processing*, Vol. 56, No. 4, pp. 1715-1716, ISSN: 1053-587X, April 2008.
- [12] P. Tichavský, Z. Koldovský, A. Yeredor, G. G. Herrero, and E. Doron, "A Hybrid Technique for Blind Separation of Non-Gaussian and Time-Correlated Sources Using a Multicomponent Approach", *IEEE Trans. on Neural Networks*, Vol. 19, No. 3, pp. 421-430, ISSN: 1045-9227, March 2008.
- [13] Z. Koldovský, P. Tichavský and E. Oja, "Efficient Variant of Algorithm FastICA for Independent Component Analysis Attaining the Cramér-Rao Lower Bound", *IEEE Trans. on Neural Networks*, Vol. 17, No. 5, Sept 2006.

- [14] P. Tichavský, Z. Koldovský and E. Oja, "Performance Analysis of the FastICA Algorithm and Cramér-Rao Bounds for Linear Independent Component Analysis", *IEEE Trans. on Signal Processing*, Vol. 54, No.4, April 2006.
- [15] P. Tichavský, Z. Koldovský, "Optimal Pairing of Signal Components Separated by Blind Techniques", *IEEE Signal Processing Letters*, Vol. 11, No. 2, pp. 119-122, Feb 2004.

#### KAPITOLY V KNIHÁCH

- [16] H. Sawada and Z. Koldovský, "Independent component and vector analysis", in *Audio Source Separation and Speech Enhancement*, Eds. E. Vincent, T. Virtanen, and S. Gannot, Wiley Publishing, 2018.
- [17] Z. Koldovský, P. Tichavský, "Improved Variants of the FastICA Algorithm", in *Advances in Independent Component Analysis and Learning Machines*, Eds. Ella Bingham, Samuel Kaski, Jorma Laaksonen and Jouko Lampinen, Academic Press, Springer, 2015.
- [18] Z. Koldovský a J. Málek, "Zpracování záznamu řeči z více mikrofonů metodami pro řešení inverzního problému," *Řeč a počítač: principy hlasové komunikace, úlohy, metody a aplikace*, editoři J. Nouza, Z. Koldovský a R. Vích, ISBN 978-80-7372-548-8, Technická univerzita v Liberci, 2009.

#### ČLÁNKY V RECENZOVANÝCH SBORNÍCÍCH KONFERENCÍ

- [19] J. Janský and Z. Koldovský, "Blind Source Separation Using Incomplete De-Mixing Transform with a Precise Approach for Selecting Constrained Sets of Frequencies," *The 16th International Workshop on Acoustic Signal Enhancement (IWAENC 2018)*, pp. 236-240, Tokio, Japan, Sep. 2018.
- [20] T. Kounovský, Z. Koldovský, and J. Čmejla, "Recursive and Partially Supervised Algorithms for Speech Enhancement on the Basis of Independent Vector Extraction," *The 16th International Workshop on Acoustic Signal Enhancement (IWAENC 2018)*, pp. 401-405, Tokio, Japan, Sep. 2018.
- [21] J. Čmejla and Z. Koldovský, "Multi-Channel Speech Enhancement Based on Independent Vector Extraction," *The 16th International Workshop on Acoustic Signal Enhancement (IWAENC 2018)*, pp. 525-529, Tokio, Japan, Sep. 2018.
- [22] J. Čmejla, T. Kounovský, J. Málek, Z. Koldovský, "Independent Vector Analysis Exploiting Pre-Learned Banks of Relative Transfer Functions for Assumed Target's Positions," *The 14th International Conference on Latent Variable Analysis and Signal Separation (LVA/ICA 2018)*, pp. 270-279, Guildford, UK, Jul. 2018.
- [23] Z. Koldovský, P. Tichavský, and N. Ono, "Orthogonally-Constrained Extraction of Independent Non-Gaussian Component from Non-Gaussian Background without ICA," *The 14th International Conference on Latent Variable Analysis and Signal Separation (LVA/ICA 2018)*, pp. 161-170, Guildford, UK, Jul. 2018.
- [24] V. Kautský, Z. Koldovský, P. Tichavský, "Cramér-Rao-Induced Bound for Interference-to-Signal Ratio Achievable Through Non-Gaussian Independent Component Extraction", *2017 IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP 2017)*, Curaçao, Dutch Antilles, pp. 94-97, Dec. 2017.
- [25] P. Rajmic, Z. Koldovský, M. Daňková, "Fast Reconstruction of Sparse Relative Impulse Responses via Second-Order Cone Programming", *2017 IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA 2017)*, New Paltz, NY, USA, pp. 364-368, Oct. 2017.

- [26] F. Nesta, S. Mosayyebpour, Z. Koldovský, K. Paleček, "Audio/Video Supervised Independent Vector Analysis through multimodal pilot dependent components", *The 25th European Signal Processing Conference (EUSIPCO 2016)*, Kos, Greece, pp. 1190-1194, Sept. 2017.
- [27] Z. Koldovský, P. Tichavský, V. Kaucký, "Independent Component Extraction: A Blind Minimum Power Distortionless Beamformer", *The 25th European Signal Processing Conference (EUSIPCO 2016)*, Kos, Greece, pp. 1195-1199, Sept. 2017.
- [28] M. Müller, J. Janský, M. Boháč and Z. Koldovský, "Linear acoustic echo cancellation using deep neural networks and convex reconstruction of incomplete transfer function," *2017 IEEE International Workshop of Electronics, Control, Measurement, Signals and their Application to Mechatronics (ECMSM)*, Donostia, San Sebastian, Spain, pp. 1-6, 2017.
- [29] F. Nesta and Z. Koldovský, "Supervised Independent Vector Analysis Through Pilot Dependent Components," *Proc. of the 42nd IEEE International Conference on Audio, Speech, and Signal Processing (ICASSP 2017)*, pp. 536-540, New Orleans, USA, March 2017.
- [30] O. Šembera, P. Tichavský and Z. Koldovský, "Adaptive Blind Separation of Instantaneous Linear Mixtures of Independent Sources," *The 13th International Conference on Latent Variable Analysis and Signal Separation (LVA/ICA 2017)*, pp. 172-181, Grenoble, France, Feb. 2017.
- [31] Z. Koldovský, J. Málek, M. Boháč, J. Janský, "CHiME4: Multichannel Enhancement Using Beamforming Driven by DNN-based Voice Activity Detection," *Proc. of the 4th Intl. Workshop on Speech Processing in Everyday Environments (CHiME 2016)*, San Francisco, CA, USA, pp. 73-77, Sep. 13, 2016.
- [32] O. Šembera, P. Tichavský and Z. Koldovský, "Blind Separation of Underdetermined Linear Mixtures Based on Source Nonstationarity and AR(1) Modeling," *Proc. of the 41st IEEE International Conference on Audio, Speech, and Signal Processing (ICASSP 2016)*, pp. 4323-4327, ISBN: 978-1-4799-9987-3, Shanghai, China, March 2016.
- [33] Z. Koldovský, F. Nesta, P. Tichavský, and N. Ono, "Frequency-Domain Blind Speech Separation Using Incomplete De-Mixing Transform," *The 24th European Signal Processing Conference (EUSIPCO 2016)*, Budapest, Hungary, Sept. 2016.
- [34] Z. Koldovský and F. Nesta, "Approximate MVDR and MMSE Beamformers Exploiting Scale-Invariant Reconstruction of Signals on Microphones," *The 15th International Workshop on Acoustic Signal Enhancement (IWAENC)*, Xi'an, China, Sept. 2016.
- [35] J. Janský, Z. Koldovský and N. Ono, "A Computationally Cheaper Method for Blind Speech Separation Based On AuxIVA and Incomplete Demixing Transform," *The 15th International Workshop on Acoustic Signal Enhancement (IWAENC)*, Xi'an, China, Sept. 2016.
- [36] J. Málek and Z. Koldovský, "Hammerstein Model-Based Nonlinear Echo Cancellation Using a Cascade of Neural Network and Adaptive Linear Filter," *The 15th International Workshop on Acoustic Signal Enhancement (IWAENC)*, Xi'an, China, Sept. 2016.

- [37] Z. Koldovský and P. Tichavský, "Sparse Reconstruction of Incomplete Relative Transfer Function: Discrete and Continuous Time Domain," *The 23rd European Signal Processing Conference (EUSIPCO 2015)*, Nice, France, Sept. 2015.
- [38] Z. Koldovský, J. Janský, and F. Nesta, "A Local Model of Relative Transfer Functions Involving Sparsity," *The 12th International Conference on Latent Variable Analysis and Signal Separation (LVA/ICA 2015)*, Liberec, Czech Republic, Aug. 2015.
- [39] Z. Koldovský, J. Málek, and P. Tichavský, "Improving Relative Transfer Function Estimates Using Second-Order Cone Programming," *The 12th International Conference on Latent Variable Analysis and Signal Separation (LVA/ICA 2015)*, Liberec, Czech Republic, Aug. 2015.
- [40] F. Nesta, T. Thormundsson, and Z. Koldovský, "On-line Multichannel Estimation of Source Spectral Dominance," *The 12th International Conference on Latent Variable Analysis and Signal Separation (LVA/ICA 2015)*, Liberec, Czech Republic, Aug. 2015.
- [41] P. Tichavský, O. Šembera, and Z. Koldovský, "Blind Separation of Mixtures of Piecewise AR(1) Processes and Model Mismatch," *The 12th International Conference on Latent Variable Analysis and Signal Separation (LVA/ICA 2015)*, Liberec, Czech Republic, Aug. 2015.
- [42] J. Málek and Z. Koldovský, "Nonlinear Echo Cancellation using Generalized Power Filters," *The 2015 IEEE International Workshop of Electronics, Control, Measurement, Signals and their application to Mechatronics (ECMSM 2015)*, Liberec, Czech Republic, June 2015.
- [43] Z. Koldovský and P. Tichavský, "A Homotopy Recursive-in-Model-Order Algorithm for Weighted Lasso," *Proc. of the 41st IEEE International Conference on Audio, Speech, and Signal Processing (ICASSP 2014)*, Florence, Italy, pp. 4151-4155, May 2014.
- [44] J. Málek and Z. Koldovský, "Sparse Target Cancellation Filters with Application to Semi-Blind Noise Extraction," *Proc. of the 41st IEEE International Conference on Audio, Speech, and Signal Processing (ICASSP 2014)*, Florence, Italy, pp. 2109-2113, May 2014.
- [45] Z. Koldovský, J. Málek, M. Müller, and P. Tichavský, "On Semi-Blind Estimation of Echo Paths During Double-Talk Based on Nonstationarity," *Proc. of the 14th International Workshop on Acoustic Signal Enhancement (IWAENC 2014)*, pp. 199-203, Antibes – Juan les Pins, France, Sept. 2014.
- [46] J. Málek, D. Botka, Z. Koldovský, and S. Gannot "Methods to Learn Bank of Filters Steering Nulls toward Potential Positions of a Target Source," *Proc. of the 4th Joint Workshop on Hands-free Speech Communication and Microphone Arrays (HSCMA 2014)*, Nancy, France, May 12-14, 2014.
- [47] J. Málek, Z. Koldovský, S. Gannot, and P. Tichavský, "Informed Generalized Sidelobe Canceler Utilizing Sparsity of Speech Signals," *Proc. of IEEE International Workshop on Machine Learning for Signal Processing*, Southampton, UK, Sept. 2013.
- [48] Z. Koldovský, P. Tichavský, D. Botka, "Noise Reduction in Dual-Microphone Mobile Phones Using A Bank of Pre-Measured Target-Cancellation Filters," *Proc. of ICASSP 2013*, pp. 679-683, Vancouver, Canada, May 2013.

- [49] N. Ono, Z. Koldovský, S. Miyabe, N. Ito, "The 2013 Signal Separation Evaluation Campaign," *Proc. of IEEE International Workshop on Machine Learning for Signal Processing*, Southampton, UK, Sept. 2013.
- [50] P. Tichavský and Z. Koldovský, "Algorithms for Nonorthogonal Approximate Joint Block-Diagonalization," *Proc. of EUSIPCO*, pp. 2094-2098, ISSN: 2076-1465, Bucharest, Romania, August 27-31, 2012.
- [51] Z. Koldovský, A. H. Phan, P. Tichavský, and A. Cichocki, "A Treatment of EEG Motor Imagery data by Underdetermined Blind Source Separation," *Proc. of EUSIPCO*, pp. 1484-1488, ISSN: 2076-1465, Bucharest, Romania, August 27-31, 2012.
- [52] A. H. Phan, P. Tichavský, A. Cichocki, and Z. Koldovský, "Low-Rank Blind Nonnegative Matrix Deconvolution," *Proc. of ICASSP 2012*, pp. 1893-1896, ISBN: 978-1-4673-0044-5, Kyoto, Japan, March 2012.
- [53] J. Málek, Z. Koldovský, and P. Tichavský, "Semi-Blind Source Separation Based on ICA and Overlapped Speech Detection," *Proc. of The 10th International Conference on Latent Variable Analysis and Source Separation (LVA/ICA 2012)*, pp. 462-469, ISBN: 978-3-642-28550-9, Tel-Aviv, Israel, March 2012.
- [54] P. Tichavský, A. Yeredor, and Z. Koldovský, "On Computation of Approximate Joint Block-Diagonalization using Ordinary AJD," *Proc. of The 10th International Conference on Latent Variable Analysis and Source Separation (LVA/ICA 2012)*, pp. 163-171, ISBN: 978-3-642-28550-9, Tel-Aviv, Israel, March 2012.
- [55] A. H. Phan, A. Cichocki, P. Tichavský, and Z. Koldovský, "On Connection Between the Convolutional and Ordinary Nonnegative Matrix Factorizations," *Proc. of The 10th International Conference on Latent Variable Analysis and Source Separation (LVA/ICA 2012)*, pp. 288-296, ISBN: 978-3-642-28550-9, Tel-Aviv, Israel, March 2012.
- [56] S. Araki, F. Nesta, E. Vincent, Z. Koldovský, G. Nolte, A. Ziehe and A. Benichoux, "The 2011 Signal Separation Evaluation Campaign (SiSEC2011): - Audio Source Separation -," *Proc. of The 10th International Conference on Latent Variable Analysis and Source Separation (LVA/ICA 2012)*, pp. 414-422, ISBN: 978-3-642-28550-9, Tel-Aviv, Israel, March 2012.
- [57] G. Nolte, D. Lutter, A. Ziehe, F. Nesta, E. Vincent, Z. Koldovský, A. Benichoux and S. Araki, "The 2011 Signal Separation Evaluation Campaign (SiSEC2011): - Biomedical Data Analysis -," *Proc. of The 10th International Conference on Latent Variable Analysis and Source Separation (LVA/ICA 2012)*, pp. 423-429, ISBN: 978-3-642-28550-9, Tel-Aviv, Israel, March 2012.
- [58] P. Tichavský and Z. Koldovský, "Stability of CANDECOMP-PARAFAC tensor decomposition," *ICASSP 2011*, pp. 4164-4167, ISBN: 978-1-4577-0537-3, Prague, Czech Republic, May 2011.
- [59] Z. Koldovský, P. Tichavský, and Anh Huy Phan, "Stability Analysis and Fast Damped-Gauss-Newton Algorithm for INDSCAL Tensor Decomposition," *Proc. of IEEE Workshop on Statistical Signal Processing*, ISBN: 978-1-4577-0568-7, pp. 581-584, Nice, France, June 2011.
- [60] Z. Koldovský, J. Málek, and P. Tichavský, "Blind Speech Separation in Time-Domain Using Block-Toeplitz Structure of Reconstructed Signal Matrices," *Proceedings of the 12th Annual Conference of the International Speech Communication Association (Interspeech 2011)*, pp. 561-564, ISSN: 1990-9772, Florence, Italy, Aug. 2011.

- [61] Z. Koldovský, J. Málek, M. Balík, and J. Nouza, "CHiME Data Separation Based on Target Signal Cancellation and Noise Masking," *International Workshop on Machine Listening in Multisource Environments (CHiME Workshop - a satellite event of Interspeech 2011)*, pp. 47-50, Florence, Italy, Aug. 2011.
- [62] J. Málek and Z. Koldovský, "Fuzzy Clustering of Independent Components within Time-Domain Blind Audio Source Separation Method," *10th International workshop on Electronics, Control, Measurement and Signals (ECMS 2011)*, pp. 44-49, ISBN: 978-1-61284-395-7, Liberec, Czech Republic, June 2011.
- [63] Z. Koldovský, P. Tichavský, and J. Málek, "Time-Domain Blind Audio Source Separation Method Producing Separating Filters of Generalized Feedforward Structure," in *Latent Variable Analysis and Signal Separation*, Lecture Notes in Computer Science Vol. 6365, pp. 17-24, ISBN: 978-3-642-15994-7, Springer, Heidelberg, Sept. 2010.
- [64] Z. Koldovský, P. Tichavský, and J. Málek, "Subband Blind Audio Source Separation Using a Time-Domain Algorithm and Tree-Structured QMF Filter Bank," in *Latent Variable Analysis and Signal Separation*, Lecture Notes in Computer Science Vol. 6365, pp. 25-32, ISBN: 978-3-642-15994-7, Springer, Heidelberg, Sept. 2010.
- [65] J. Málek, Z. Koldovský, and P. Tichavský, "Adaptive Time-Domain Blind Separation of Speech Signals," in *Latent Variable Analysis and Signal Separation*, Lecture Notes in Computer Science Vol. 6365, pp. 9-16, ISBN: 978-3-642-15994-7, Springer, Heidelberg, Sept. 2010.
- [66] P. Tichavský and Z. Koldovský, "Simultaneous Search for All Modes in Multilinear Models," *ICASSP 2010*, pp. 4114-4117, ISBN: 978-1-4244-4296-6, ISSN: 1520-6149, Dallas, USA, March 2010.
- [67] Z. Koldovský and P. Tichavský, "A Comparison of Independent Component and Independent Subspace Analysis Algorithms," *EUSIPCO 2009*, pp. 1447-1451, Glasgow, Scotland, August 24-28, 2009.
- [68] P. Tichavský, A. Yeredor, and Z. Koldovský, "A Fast Asymptotically Efficient Algorithm for Blind Separation of a Linear Mixture of Block-Wise Stationary Autoregressive Processes," *ICASSP 2009*, pp. 3133-3136, ISBN: 978-1-4244-2354-5, ISSN: 1520-6149, Taipei, Taiwan, April 2009.
- [69] J. Petkov and Z. Koldovský, "BSSGUI – A Package for Interactive Control of Blind Source Separation Algorithms in MATLAB," in *Cross-Modal Analysis of Speech, Gestures, Gaze and Facial Expressions* (Eds.: A. Esposito and R. Vích), pp. 386-398, ISBN: 978-3-642-03319-3, ISSN: 0302-9743, Springer Berlin / Heidelberg, July 2009.
- [70] J. Málek, Z. Koldovský, J. Žďánský and J. Nouza, "Enhancement of Noisy Speech Recordings via Blind Source Separation", *Proceedings of the 9th Annual Conference of the International Speech Communication Association (Interspeech 2008)*, pp. 159-162, ISSN: 1990-9772, September 22-26, Brisbane, Australia, 2008.
- [71] Z. Koldovský and P. Tichavský, "Time-domain Blind Audio Source Separation Using Advanced Component Clustering and Reconstruction", *Proc. of The Joint Workshop on Hands-free Speech Communication and Microphone Arrays (HSCMA 2008)*, pp. 216-219, ISBN: 978-1-4244-2338-5, May 6-8, Trento, Italy, 2008.
- [72] Z. Koldovský, J. Málek, P. Tichavský, Y. Deville, and S. Hosseini, "Extension of EFICA Algorithm for Blind Separation of Piecewise Stationary Non Gaussian Sources", *33rd International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2008)*, Las Vegas, Nevada, pp. 1913-1916, ISBN: 1-4244-1484-9, April 2008.

- [73] Z. Koldovský and P. Tichavský, "Time-Domain Blind Audio Source Separation Using Advanced ICA Methods", *Proceedings of the 8th Annual Conference of the International Speech Communication Association (Interspeech 2007)*, pp. 846-849, August 2007.
- [74] P. Tichavský, Z. Koldovský and E. Oja, "Speed and Accuracy Enhancement of Linear ICA Techniques Using Rational Nonlinear Functions", *Proceedings of 7th International Conference on Independent Component Analysis (ICA2007)*, pp. 285-292, Sept. 2007.
- [75] Z. Koldovský and P. Tichavský, "Blind Instantaneous Noisy Mixture Separation with Best Interference-plus-noise Rejection", *Proceedings of 7th International Conference on Independent Component Analysis (ICA2007)*, pp. 730-737, Sept. 2007.
- [76] G. G. Herrero, Z. Koldovský, P. Tichavský, and K. Egiazarian, "A Fast Algorithm for Blind Separation of Non-Gaussian and Time-Correlated Signals", *Proceedings of 15th European Signal Processing Conference (EUSIPCO 2007)*, pp. 1731-1735, Sept 2007.
- [77] J. Málek, Z. Koldovský, S. Hosseini, and Y. Deville, "A Variant of EFICA Algorithm with Adaptive Parametric Density Estimator", *8th International Workshop on Electronics, Control, Modelling, Measurement, and Signals (ECMS 2007)*, pp. 79-84, Liberec, Czech Republic, May 2007.
- [78] Z. Koldovský, J. Nouza, and J. Kolorenč, "Continuous Time-Frequency Masking Method for Blind Speech Separation with Adaptive Choice of Threshold Parameter Using ICA", *Interspeech 2006*, Pittsburgh PA, USA, 17.-21. September, pp. 2578-2581, 2006.
- [79] P. Tichavský, Z. Koldovský, E. Doron, A. Yeredor, and G. G. Herrero, "Blind signal separation by combining two ICA algorithms: HOS-based EFICA and time structure-based WASOBI", *Proceedings of The 2006 European Signal Processing Conference (EUSIPCO'2006)*, Florence, Sep. 2006.
- [80] Z. Koldovský, P. Tichavský, "Methods of Fair Comparison of Performance of Linear ICA Techniques in Presence of Additive Noise", *Proc. of ICASSP 2006*, Toulouse, no. V., pp. 873-876, May 2006.
- [81] Z. Koldovský, P. Tichavský, "Efficient Variant of Algorithm FastICA for Independent Component Analysis Attaining the Cramér-Rao Lower Bound", *Proc. of SSP-2005*, Bordeaux, July 2005.
- [82] P. Tichavský, Z. Koldovský and E. Oja, "Asymptotic Performance Analysis of the Fixed-Point Algorithm (Fast-ICA) for Independent Component Analysis", *Proc. of SSP-2005*, Bordeaux, July 2005.
- [83] Z. Koldovský, P. Tichavský and E. Oja, "Cramér-Rao Lower Bound for Linear Independent Component Analysis.", *Proc. of ICASSP-2005*, Philadelphia, Vol. III, pp. 581 - 584, March 2005.

## PATENTY

- [84] Z. Koldovský and P. Tichavský, "Způsob potlačení šumu a zvýraznění řečového signálu pro mobilní telefon se dvěma nebo více mikrofony", Czech patent nr. 304330, 2014.
- [85] Z. Koldovský and P. Tichavský, "Způsob slepé separace akustických signálů z jejich konvolutorní směsi", Czech patent nr. 303191, 2012.