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List of Publications

8.1.2024

Articles in refereed scientific journals

1. Hänninen N, Pulkkinen A, Arridge S, Tarvainen T, Estimating absorption and scattering in quantitative photoacoustic tomography with an adaptive Monte Carlo method for light transport*, Inverse Problems and Imaging,* Submitted.
2. Afkham BM, Knudsen K, Rasmussen AK, Tarvainen T, A Bayesian approach for consistent reconstruction of inclusions, *Inverse Problems*, Submitted.
3. Tarvainen T, Cox B, Quantitative photoacoustic tomography: modelling and inverse problems, *Journal of Biomedical Optics,* Invited review, 29(S1):S11509, 2024.
4. Manninen A, Mozumder M, Tarvainen T, Hauptmann A, Sparsity promoting reconstructions via hierarchical prior models in diffuse optical tomography, *Inverse Problems and Imaging,* 18(1):113-137, 2024.
5. Koponen E, Leskinen J, Tarvainen T, Pulkkinen A, Background-oriented schlieren sensitivity in terms of geometrical parameters of measurement setup, *The Journal of the Acoustical Society of America*, 154(6): 3726-3736, 2023.
6. Xu W, Leskinen J, Sahlström T, Happonen E, Tarvainen T, Lehto V-P, Assembly of fluorophore J-aggregates with nanospacer onto mesoporous nanoparticles for enhanced photoacoustic imaging, *Photoacoustics*, 33:100552, 2023.
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17. Hänninen N, Pulkkinen A, Leino A, Tarvainen T, Application of diffusion approximation in quantitative photoacoustic tomography in the presence of low-scattering regions, *Journal of Quantitative Spectroscopy and Radiative Transfer,* 250:107065, 2020.
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Articles in refereed scientific edited volumes and conference proceedings

1. Sahlström T, Tarvainen T, Deep learning in photoacoustic tomography utilizing variational autoencoders, *in Proc. SPIE 12631, Opto-Acoustic Methods and Applications in Biophotonics VI*, C. Kim, J. Laufer, V. Ntziachristos, and R.J. Zemp Eds., 1263108, 2023.
2. Suhonen M, Pulkkinen A, Tarvainen T, One-step estimation of spectral optical parameters in quantitative photoacoustic tomography, *in Proc. SPIE 12631, Opto-Acoustic Methods and Applications in Biophotonics VI*, C. Kim, J. Laufer, V. Ntziachristos, and R.J. Zemp Eds., 126310D, 2023.
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Book chapters

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1. Time-domain diffuse optical tomography system based on nanosecond scale pulse illuminations, UEF Dnro 1330/02.08.02.01/2021, 27.8.2021.
2. MATLAB-toolbox for simulating light transport using Monte Carlo method, UEF Dnro 323.02.07.03.01.18, 26.2.2018.
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Software

1. ValoMC - A Monte Carlo software for simulating light transport https://inverselight.github.io/ValoMC/