Publications

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Ten selected peer-reviewed scientific articles

[1] H. Haario, E. Saksman, and J. Tamminen. An adaptive Metropolis algorithm. *Bernoulli*, 7(2):223–242, 2001.

[2] H. Haario, M. Laine, M. Lehtinen, E. Saksman, and J. Tamminen. MCMC methods for high dimensional inversion in remote sensing (with discussion). *Journal of the Royal Statistical Society B*, 66(Part 3):591–607, 2004.

[3] J. Hakkarainen, I. Ialongo, and J. Tamminen. Direct space-based observations of anthropogenic CO2 emission areas from OCO-2. *Geophysical Research Letters*, 43(21):11,400–11,406, 2016. 2016GL070885.

[4] S. Tukiainen, J. Railo, M. Laine, J. Hakkarainen, R. Kivi, P. Heikkinen, H. Chen, and J. Tamminen. Retrieval of atmospheric CH4 profiles from Fourier transform infrared data using dimension reduction and MCMC. *Journal of Geophysical Research: Atmospheres*, 2016.

[5] A. Eldering, P. O. Wennberg, D. Crisp, D. S. Schimel, M. R. Gunson, A. Chatterjee, J. Liu, F. M. Schwandner, Y. Sun, C. W. O'Dell, C. Frankenberg, T. Taylor, B. Fisher, G. B. Osterman, D. Wunch, J. Hakkarainen, J. Tamminen, and B. Weir. The Orbiting Carbon Observatory-2 early science investigations of regional carbon dioxide fluxes. *Science*, 358(6360), 2017.

[6] P. F. Levelt, J. Joiner, J. Tamminen, J. P. Veefkind, P. K. Bhartia, D. C. Stein Zweers, B. N. Duncan, D. G. Streets, H. Eskes, R. van der A, C. McLinden, V. Fioletov, S. Carn, J. de Laat, M. DeLand, S. Marchenko, R. McPeters, J. Ziemke, D. Fu, X. Liu, K. Pickering, A. Apituley, G. González Abad, A. Arola, F. Boersma, C. Chan Miller, K. Chance, M. de Graaf, J. Hakkarainen, S. Hassinen, I. Ialongo, Q. Kleipool, N. Krotkov, C. Li, L. Lamsal, P. Newman, C. Nowlan, R. Suleiman, L. G. Tilstra, O. Torres, H. Wang, and K. Wargan. The Ozone Monitoring Instrument: Overview of 14 years in space. *Atmospheric Chemistry and Physics*, 18(8):5699–5745, 2018.

[7] O. Lamminpää, J. Hobbs, J. Brynjarsdóttir, M. Laine, A. Braverman, H. Lindqvist, and J. Tamminen. Accelerated MCMC for satellite-based measurements of atmospheric CO2. *Remote Sensing*, 11(17), 2019.

[8] G. Janssens-Maenhout, B. Pinty, M. Dowell, H. Zunker, E. Andersson, G. Balsamo, J.-L. Bézy, T. Brunhes, H. Bösch, B. Bojkov, D. Brunner, M. Buchwitz, D. Crisp, P. Ciais, P. Counet, D. Dee, H. Denier van der Gon, H. Dolman, M. Drinkwater, O. Dubovik, R. Engelen, T. Fehr, V. Fernandez, M. Heimann, K. Holmlund, S. Houweling, R. Husband, O. Juvyns, A. Kentarchos, J. Landgraf, R. Lang, A. Löscher, J. Marshall, Y. Meijer, M. Nakajima, P.I. Palmer, P. Peylin, P. Rayner, M. Scholze, B. Sierk, J. Tamminen, and P. Veefkind. Towards an operational anthropogenic CO2 emissions monitoring and verification support capacity. *Bulletin of the American Meteorological Society*, 10(8), 2020.

[9] J. Hakkarainen, I. Ialongo, E. Koene, M. E. Szelag, J. Tamminen, G. Kuhlmann, and D. Brunner. Analyzing Local Carbon Dioxide and Nitrogen Oxide Emissions From Space Using the Divergence Method: An Application to the Synthetic SMARTCARB Dataset. *Frontiers in Remote Sensing*, 3(878731), 2022.

[10] T. Härkönen, Sundstrm A.-M., J. Tamminen, J. Hakkarainen, E. Vakkilainen, and H. Haario. Uncertainty quantification by Gaussian random fields for point-like emissions from satellite observations. *International Journal for Uncertainty Quantification*, 13(5):41–59, 2023.