

Total: 100 publications, 28 as first author, 22 as second of two authors; 16 as second of more than two authors; 18 in GJI; 7 in JGR; 6 in GRL; 6 in EPSL; 3 in PNAS; 1 in Nature; 1 in Nature Geoscience; 2 in Nature Communications; 1 in Sci. Rep.; 1 in SIAM Review; 4 in Geophysics; 2 in GEM; 3 in SRL; 1 in JRSSB; 1 in Lithos; 1 in BSSA; 1 in Inv. Probl.; 1 in ACHA; 1 in APJL; 1 in G3; 1 in JFAA; 1 in JGEOD; 1 in JGS; 1 in IJCG; 4 Springer book chapters. 4 invited SPIE proceedings; 5 in Eos; 6 SEG Extended Abstracts; 5 LPSC Extended Abstracts; 1 EAGE Extended Abstract; 4 in TLE; 1 in IEEE proceedings; 1 in Planet Earth; 1 in Acoustics Today; 1 in Physics Today; 1 in MATLAB Digest.

Frederik J. Simons | 25 Selected Publications

- Bevis, M., Harig, C., Khan, S. A., Brown, A., **Frederik J. Simons**, Willis, M., Fettweis, X., van den Broeke, M. R., Madsen, F. B., Kendrick, E. C., Caccamise II, D. J., van Dam, T., Knudsen, P. & Nylén, T., 2019. Accelerating changes in ice mass within Greenland, and the ice sheet's sensitivity to atmospheric forcing, *Proc. Natl. Acad. Sci.*, **116**(6), 1934–1939. doi: 10.1073/pnas.1806562116.
- Dahlen, F. A. & **Frederik J. Simons**, 2008. Spectral estimation on a sphere in geophysics and cosmology, *Geophys. J. Int.*, **174**(3), 774–807. doi: 10.1111/j.1365-246X.2008.03854.x.
- Gualtieri, L., Bachmann, E., **Frederik J. Simons** & Tromp, J., 2020. The origin of secondary microseism Love waves, *Proc. Natl. Acad. Sci.*, **117**(47), 29504–29511. doi: 10.1073/pnas.2013806117.
- Guillaumin, A. P., Sykulski, A. M., Olhede, S. C. & **Frederik J. Simons**, 2022. The debiased spatial Whittle likelihood, *J. R. Stat. Soc., Ser. B*, pp. 1–32. doi: 10.1111/rssb.12539.
- Harig, C. & **Frederik J. Simons**, 2012. Mapping Greenland's mass loss in space and time, *Proc. Natl. Acad. Sci.*, **109**(49), 19934–19937. doi: 10.1073/pnas.1206785109.
- Harig, C. & **Frederik J. Simons**, 2015. Accelerated West Antarctic ice mass loss continues to outpace East Antarctic gains, *Earth Planet. Sci. Lett.*, **415**, 134–141. doi: 10.1016/j.epsl.2015.01.029.
- Kopp, R. E., **Frederik J. Simons**, Mitrovica, J. X., Maloof, A. C. & Oppenheimer, M., 2009. Probabilistic assessment of sea level during the last interglacial stage, *Nature*, **462**, 863–867. doi: 10.1038/nature08686.
- Nolet, G., Hello, Y., van der Lee, S., Bonnieux, S., Ruiz, M. C., Pazmino, N. A., Deschamps, A., Regnier, M. M., Font, Y., Chen, Y. J. & **Frederik J. Simons**, 2019. Imaging the Galápagos mantle plume with an unconventional application of floating seismometers, *Sci. Rep.*, **9**, 1326. doi: 10.1038/s41598-018-36835-w.
- Pipatprathanporn, S. & **Frederik J. Simons**, 2022. One year of sound recorded by a MERMAID float in the Pacific: Hydroacoustic earthquake signals and infrasonic ambient noise, *Geophys. J. Int.*, **228**, 193–212. doi: 10.1093/gji/ggab296.
- Plattner, A. & **Frederik J. Simons**, 2014. Spatiospectral concentration of vector fields on a sphere, *Appl. Comput. Harmon. Anal.*, **36**, 1–22. doi: 10.1016/j.acha.2012.12.001.
- Plattner, A. & **Frederik J. Simons**, 2017. Internal and external potential field estimation

- from regional vector data at varying satellite altitude, *Geophys. J. Int.*, **211**, 207–238. doi: 10.1093/gji/ggx244.
- Reuber, G. S. & **Frederik J. Simons**, 2020. Multi-physics adjoint modeling of Earth structure: combining gravimetric, seismic, and geodynamic inversions, *Intern. J. Geomath.*, **11**(30), 1–38. doi: 10.1007/s13137-020-00166-8.
- Simon, J. D., **Frederik J. Simons** & Irving, J. C. E., 2022. Recording earthquakes for tomographic imaging of the mantle beneath the South Pacific by autonomous MERMAID floats, *Geophys. J. Int.*, **228**, 147–170. doi: 10.1093/gji/ggab271.
- Sukhovich, A., Bonnieux, S., Hello, Y., Irissou, J.-O., **Frederik J. Simons** & Nolet, G., 2015. Seismic monitoring in the oceans by autonomous floats, *Nature Commun.*, **6**, 8027. doi: 10.1038/ncomms9027.
- Frederik J. Simons**, 2010, Slepian functions and their use in signal estimation and spectral analysis, in *Handbook of Geomathematics*, edited by W. Freeden, M. Z. Nashed, & T. Sonar, chap. 30, pp. 891–923, Springer, Heidelberg, Germany. doi: 10.1007/978-3-642-01546-5_30.
- Frederik J. Simons** & Dahlen, F. A., 2006. Spherical Slepian functions and the polar gap in geodesy, *Geophys. J. Int.*, **166**(3), 1039–1061. doi: 10.1111/j.1365-246X.2006.03065.x.
- Frederik J. Simons** & Olhede, S. C., 2013. Maximum-likelihood estimation of lithospheric flexural rigidity, initial-loading fraction, and load correlation, under isotropy, *Geophys. J. Int.*, **193**(3), 1300–1342. doi: 10.1093/gji/ggt056.
- Frederik J. Simons**, Zielhuis, A. & van der Hilst, R. D., 1999. The deep structure of the Australian continent from surface-wave tomography, *Lithos*, **48**, 17–43. doi: 10.1016/S0024-4937(99)00041-9.
- Frederik J. Simons**, van der Hilst, R. D. & Zuber, M. T., 2003. Spatiospectral localization of isostatic coherence anisotropy in Australia and its relation to seismic anisotropy: Implications for lithospheric deformation, *J. Geophys. Res.*, **108**(B5), 2250. doi: 10.1029/2001JB000704.
- Frederik J. Simons**, Dahlen, F. A. & Wieczorek, M. A., 2006. Spatiospectral concentration on a sphere, *SIAM Rev.*, **48**(3), 504–536. doi: 10.1137/S0036144504445765.
- Frederik J. Simons**, Nolet, G., Georgief, P., Babcock, J. M., Regier, L. A. & Davis, R. E., 2009. On the potential of recording earthquakes for global seismic tomography by low-cost autonomous instruments in the oceans, *J. Geophys. Res.*, **114**, B05307. doi: 10.1029/2008JB006088.
- Frederik J. Simons**, Loris, I., Nolet, G., Daubechies, I. C., Voronin, S., Vetter, P. A., Charléty, J. & Vonesch, C., 2011. Solving or resolving global tomographic models with spherical wavelets, and the scale and sparsity of seismic heterogeneity, *Geophys. J. Int.*, **187**(2), 969–988. doi: 10.1111/j.1365-246X.2011.05190.x.
- Wang, L., Shum, C. K., **Frederik J. Simons**, Tapley, B. D. & Dai, C., 2012. Coseismic and postseismic deformation of the 2011 Tohoku-Oki earthquake constrained by GRACE gravimetry, *Geophys. Res. Lett.*, **39**, L07301. doi: 10.1029/2012GL051104.
- Yuan, Y. O. & **Frederik J. Simons**, 2014. Multiscale adjoint waveform-difference tomography using wavelets, *Geophysics*, **79**(3), WA79–WA95. doi: 10.1190/GEO2013-0383.1.
- Yuan, Y. O., **Frederik J. Simons** & Bozdağ, E., 2015. Multiscale adjoint tomography for surface and body waves, *Geophysics*, **80**(5), R281–R302. doi: 10.1190/GEO2014-0461.1.