

Selected publications by Michael Kahnert 2003-2013:

Peer-reviewed articles in international journals

- M. Kahnert**, T. Nousiainen, and H. Lindqvist, “Models for integrated and differential scattering optical properties of encapsulated light absorbing carbon aggregates”, *Opt. Express* **21**, 7974-7993, 2013.
- M. Kahnert**, “The T-matrix code Tsym for homogeneous dielectric particles with finite symmetries”, *J. Quant. Spectrosc. Radiat. Transfer* **123**, 62-78, 2013.
- M. A. Thomas, A. Devasthale, and **M. Kahnert**, “Exploiting the favourable alignment of CALIPSO’s descending orbital tracks over Sweden to study aerosol characteristics”, *Tellus* **65B**, 21155, 2013.
- S. Merikallio, T. Nousiainen, **M. Kahnert**, and A.-M. Harri, “Light scattering by the Maritan dust analog, palagonite, modeled with ellipsoids”, *Opt. Express* **21**, 17972-17985, 2013.
- M. Yurkin and **M. Kahnert**, “Light scattering by a cube: Accuracy limits of the discrete dipole approximation and the T-matrix method”, *J. Quant. Spectrosc. Radiat. Transfer* **123**, 176-183, 2013.
- Y. Takano, K. N. Liou, **M. Kahnert**, and P. Yang, “The single-scattering properties of black carbon aggregates determined from the geometric-optics surface-wave approach and the T-matrix method”, *J. Quant. Spectrosc. Radiat. Transfer* **125**, 51-56, 2013.
- D. W. Mackowski, **F. M. Kahnert**, and M. I. Mishchenko, “A T matrix method based upon scalar basis functions”, *J. Quant. Spectrosc. Radiat. Transfer* **123**, 113-121, 2013.
- M. Kahnert**, “T-matrix computations for particles with high-order finite symmetries”, *J. Quant. Spectrosc. Radiat. Transfer* **123**, 79-91, 2013.
- M. Kahnert**, T. Nousiainen, H. Lindqvist, and M. Ebert, “Optical properties of light absorbing carbon aggregates mixed with sulfate: Assessment of different model geometries for climate forcing calculations”, *Opt. Express* **20**, 10042-10058, 2012.
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- M. Kahnert**, T. Nousiainen, M. A. Thomas, and J. Tyynelä, “Light scattering by particles with small-scale surface roughness: Comparison of four classes of model geometries”, *J. Quant. Spectrosc. Radiat. Transfer* **113**, 2356-2367, 2012.
- T. Nousiainen, E. Zubko, H. Lindqvist, **M. Kahnert**, and J. Tyynelä, “Comparison of scattering by different nonspherical, wavelength-scale particles”, *J. Quant. Spectrosc. Radiat. Transfer* **113**, 2391-2405, 2012.
- M. Kahnert** and A. Devasthale, “Black carbon fractal morphology and short-wave radiative impact: a modelling study”, *Atmos. Chem. Phys.* **11**, 11745-11759, 2011.
- P. Mauno, G. McFarquhar, P. Räisänen, **M. Kahnert**, M. S. Trimlin, and T. Nousiainen, “The influence of observed cirrus microphysical properties on shortwave radiation: a case study over Oklahoma”, *J. Geophys. Res.* **116**, D22208, 2011.
- M. Kahnert** and T. Rother, “Modeling optical properties of particles with small-scale surface roughness: combination of group theory with a perturbation approach”, *Opt. Express* **19**, 11138-11151, 2011.
- T. Nousiainen, **M. Kahnert**, and H. Lindqvist, “Can particle shape information be retrieved from light-scattering observations using spheroidal model particles?”, *J. Quant. Spectrosc. Radiat. Transfer* **112**, 2213-2225, 2011.
- S. Merikallio, H. Lindqvist, T. Nousiainen, and **M. Kahnert**, “Modelling light scattering by mineral dust using spheroids: assessment of applicability”, *Atmos. Chem Phys.* **11**, 5347-5363, 2011.
- M. Kahnert**, T. Nousiainen, and P. Mauno, “On the impact of non-sphericity and small-scale surface roughness on the optical properties of hematite aerosols”, *J. Quant. Spectrosc. Radiat. Transfer* **112**, 1815-1824, 2011.
- J. M. J. Aan de Brugh, M. Schaap, E. Vignati, F. Dentener, **M. Kahnert**, M. Sofiev, V. Huijnen, and M. C. Krol, “The European aerosol budget in 2006”, *Atmos. Chem. Phys.* **11**, 1117-, 2011.
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- M. Kahnert.** Electromagnetic scattering by nonspherical particles: Recent advances. *J. Quant. Spectrosc. Radiat.* **111**, 1788-1790, 2010.
- M. Kahnert.** Modelling the optical and radiative properties of freshly emitted light absorbing carbon within an atmospheric chemical transport model. *Atmos. Chem. Phys.* **10**, 1403-1416, 2010.
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- M. Kahnert.** Reproducing the optical properties of fine desert dust aerosols using ensembles of simple model particles. *J. Quant. Spectrosc. Radiat. Transfer* **85**, 231-249, 2004.
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- F.M. Kahnert**, J.J. Stamnes and K. Stamnes. Surface-integral formulation for electromagnetic scattering in spheroidal coordinates. *J. Quant. Spectrosc. Radiat. Transfer* **77**, 61-78, 2003.

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- M. Kahnert** and T. Rother, “A T-matrix approach for particles with small-scale surface roughness”, *Atti Acad. Pelorit. Pericol.* **89**, C1V89S1P045, 2011.
- T. Nousiainen, **M. Kahnert**, and H. Lindqvist “On retrieving shape information from scattering phase matrices using a distribution of spheroids”, *Atti Acad. Pelorit. Pericol.* **89**, C1V89S1P070, 2011.
- P. Mauno, **M. Kahnert**, P. Räisänen, and T. Nousiainen, “Sensitivity of radiative impact of dust to particle shape: comparison of spheres and spheroids”, *Atti Acad. Pelorit. Pericol.* **89**, C1V89S1P063, 2011.
- S. Merikallio, H. Lindqvist, T. Nousiainen, and **M. Kahnert**, “Single-scattering by mineral dust particles modelled with spheroids”, in: K. Muinonen, A. Penttilä, H. Lindqvist, T. Nousiainen, and G. Videen (Eds.), *Proceedings of the Twelfth International Conference on Electromagnetic Scattering*, pp. 158-161, University of Helsinki, 2010.
- P. Mauno, T. Nousiainen, G. M. McFarquhar, M. Timlin, **M. Kahnert**, and P.

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- M. Kahnert,** T. Nousiainen, and P. Räisänen. On the (in)accuracy of the spherical particle approximation in mineral aerosol radiative forcing simulations. In: G. Videen, M. Mishchenko, M. P. Mengüç, and N. Zakharova (Eds.), *Proceedings of the Tenth Electromagnetic and Light Scattering Conference*, pp 73-76, Begell House Inc., New York, 2007.
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