

## List of Publications from SeaKLIM Members (2004-2010)

### ■ Peer-reviewed

#### **First Author from SeaKLIM Group**

- [1] **Eyring, V.**, I. S. A. Isaksen, T. Berntsen, W. J. Collins, J. J. Corbett, O. Endresen, R. G. Grainger, J. Moldanova, H. Schlager, and D. S. Stevenson, Transport impacts on atmosphere and climate: Shipping, *Atm. Env.*, 44, 4735 – 4771, doi:10.1016/j.atmosenv.2009.04.059, 2010a.
- [2] **Eyring, V.**, I. Cionni, G. E. Bodeker, A. J. Charlton-Perez, D. E. Kinnison, J. F. Scinocca, D. W. Waugh, H. Akiyoshi, S. Bekki, M. P. Chipperfield, M. Dameris, S. Dhomse, S. M. Frith, H. Garny, A. Gettelman, A. Kubin, U. Langematz, E. Mancini, M. Marchand, T. Nakamura, L. D. Oman, S. Pawson, G. Pitari, D. A. Plummer, E. Rozanov, T. G. Shepherd, K. Shibata, W. Tian, P. Braesicke, S. C. Hardiman, J. F. Lamarque, O. Morgenstern, D. Smale, J. A. Pyle, and Y. Yamashita, Multi-model assessment of stratospheric ozone return dates and ozone recovery in CCMVal-2 models, *Atmos. Chem. Phys.*, 10, 9451-9472, doi:10.5194/acp-10-9451-2010, 2010b.
- [3] **Eyring, V.**, I. Cionni, J. F. Lamarque, H. Akiyoshi, G. E. Bodeker, A. J. Charlton-Perez, S. M. Frith, A. Gettelman, D. E. Kinnison, T. Nakamura, L. D. Oman, S. Pawson, and Y. Yamashita, Sensitivity of 21st century stratospheric ozone to greenhouse gas scenarios, *Geophys. Res. Lett.*, 37, L16807, doi:10.1029/2010GL044443, 2010c.
- [4] **Eyring, V.**, D. S. Stevenson, A. Lauer, F. J. Dentener, T. Butler, W. J. Collins, K. Ellingsen, M. Gauss, D. A. Hauglustaine, I. S. A. Isaksen, M. G. Lawrence, A. Richter, J. M. Rodriguez, M. Sanderson, S. E. Strahan, K. Sudo, S. Szopa, T. P. C. van Noije, and O. Wild: Multi-model simulations of the impact of international shipping on atmospheric chemistry and climate in 2000 and 2030, *Atmos. Chem. Phys.*, 7, 757-780, 2007a.
- [5] **Eyring, V.**, D. W. Waugh, G. E. Bodeker, H. Akiyoshi, J. Austin, B. Boville, P. Braesicke, C. Brühl, N. Butchart, M. P. Chipperfield, E. Cordero, M. Dameris, R. Deckert, M. Deushi, S. M. Frith, R. R. Garcia, A. Gettelman, M. Giorgetta, D. E. Kinnison, E. Mancini, E. Manzini, D. R. Marsh, S. Matthes, T. Nagashima, P. A. Newman, J. E. Nielsen, S. Pawson, D. A. Plummer, G. Pitari, E. Rozanov, M. Schraner, T. G. Shepherd, K. Shibata, B. Steil, R. Stolarski, W. Tian, and M. Yoshiki: Multimodel projections of ozone recovery in the 21st century, *J. Geophys. Res.*, 112, D16303, doi:10.1029/2006JD008332, 2007b.
- [6] **Eyring, V.**, N. Butchart, D. W. Waugh, H. Akiyoshi, J. Austin, S. Bekki, G. E. Bodeker, B. A. Boville, C. Brühl, M. P. Chipperfield, E. Cordero, M. Dameris, M. Deushi, V. E. Fioletov, S. M. Frith, R. R. Garcia, A. Gettelman, M. A. Giorgetta, V. Grewe, L. Jourdain, D. E. Kinnison, E. Mancini, E. Manzini, M. Marchand, D. R. Marsh, T. Nagashima, P. A. Newman, J. E. Nielsen, S. Pawson, G. Pitari, D. A. Plummer, E. Rozanov, M. Schraner, T. G. Shepherd, K. Shibata, R. S. Stolarski, H. Struthers, W. Tian, and M. Yoshiki: Assessment of temperature, trace species and ozone in chemistry-climate model simulations of the recent past, *J. Geophys. Res.*, 111, D22308, doi:10.1029/2006JD007327, 2006.
- [7] **Eyring, V.**, H. W. Köhler, J. van Aardenne, and A. Lauer: Emissions from International Shipping: 1. The last 50 Years. *J. Geophys. Res.*, 110, D17305, doi:10.1029/2004JD005619, 2005a.
- [8] **Eyring, V.**, H. W. Köhler, A. Lauer, and B. Lemper: Emissions From International Shipping: 2. Impact of Future Technologies on Scenarios Until 2050. *J. Geophys. Res.*, 110, D17306, doi:10.1029/2004JD005620, 2005b.
- [9] **Eyring, V.**, N. R. P. Harris, M. Rex, T. G. Shepherd, D. W. Fahey, G. T. Amanatidis, J. Austin, M. P. Chipperfield, M. Dameris, P. M. De F. Forster, A. Gettelman, H. F. Graf, T. Nagashima, P. A. Newman, S. Pawson, M. J. Prather, J. A. Pyle, R. J. Salawitch, B. D. Santer, and D. W. Waugh: A strategy for process-oriented validation of coupled chemistry-climate models, *Bull. Am. Meteorol. Soc.*, 86, 1117–1133, 2005c.
- [10] **Franke, K.**, A. Richter, H. Bovensmann, **V. Eyring**, P. Jöckel, and J. P. Burrows, Ship emitted NO<sub>2</sub> in the Indian Ocean: comparison of model results with satellite data, *Atmos. Chem. Phys.*, 9, 7289-7301, 2009.

- [11] **Franke, K., V. Eyring**, R. Sander, J. Hendricks, **A. Lauer**, and R. Sausen, Toward Effective Emissions of Ships in Global Models, *Meteorologische Zeitschrift*, 17, 2, 117-129(13), 2008.
- [12] Hassler, B., G.E. Bodeker, **I. Cionni**, and M. Dameris, A vertically resolved, monthly mean, ozone database from 1979 to 2100 for constraining global climate model simulations, *Int. J. Remote Sensing*, 30, Nos. 15-16, 4009-4018, doi: 10.1080/01431160902821874, 2009.
- [13] **Lauer, A., V. Eyring**, J. J. Corbett, C. Wang, and J. J. Winebrake, An assessment of near-future policy instruments for oceangoing shipping: Impact on atmospheric aerosol burdens and the Earth's radiation budget, *Environ. Sci. Technol.*, 49, 13, 4777- 4782, doi: 10.1021/es900922h, 2009.
- [14] **Lauer, A., V. Eyring**, J. Hendricks, P. Jöckel, and U. Lohmann, Global model simulations of the impact of ocean-going ships on aerosols, clouds, and the radiation budget, *Atmos. Chem. Phys.*, 7, 5061-5079, 2007.
- [15] **Lauer, A.**, J. Hendricks, I. Ackermann, B. Schell, H. Hass, and S. Metzger: Simulating aerosol microphysics with the ECHAM/MADE GCM - Part I: Model description and comparison with observations, *Atmos. Chem. Phys.*, 5, 3251-3276, SRef-ID: 1680-7324/acp/2005-5-3251, 2005.
- [16] **Paxian, A., V. Eyring**, W. Beer, R. Sausen, and C. Wright, Present-day and future global bottom-up ship emission inventories including polar routes, *Environ. Sci. Technol.*, 44 (4), 1333–1339, 2010.
- [17] **Schreier, M., L. Joxe, V. Eyring, H. Bovensmann**, and J. P. Burrows, Ship track characteristics derived from geostationary satellite observations on the west coast of southern Africa, *Atmospheric Research*, 95, 32-39, doi:10.1016/j.atmosres.2009.08.005, 2009.
- [18] **Schreier, M.**, H. Mannstein, **V. Eyring**, and **H. Bovensmann**, Global ship track distribution and radiative forcing from 1 year of AATSR data, *Geophys. Res. Lett.*, 34, L17814, doi:10.1029/2007GL030664, 2007.
- [19] **Schreier, M.**, A. A. Kokhanovsky, **V. Eyring**, L. Bugliaro, H. Mannstein, B. Mayer, **H. Bovensmann**, and J. P. Burrows: Impact of ship emissions on the microphysical, optical and radiative properties of marine stratus: a case study, *Atmos. Chem. Phys.*, 6, 4925-4942, 2006.
- [20] Struthers, H., G.E. Bodeker, J. Austin, S. Bekki, **I. Cionni**, M. Dameris, M.A. Giorgetta, V. Grewe, F. Lefevre, F. Lott, E. Manzini, T. Peter, E. Rozanov, and M. Schraner, The simulation of the Antarctic ozone hole by chemistry-climate models, *Atmos. Chem. Phys.*, 9, 6363-6376, 2009.

*First Author from SeaKLIM Group, submitted or in preparation*

- [21] **Cionni, I., V. Eyring**, J. F. Lamarque, W. J. Randel, D. S. Stevenson, F. Wu, G. E. Bodeker, T. G. Shepherd, D. T. Shindell, and D. W. Waugh, Ozone database in support of CMIP5 simulations: results and corresponding radiative forcing, *Atmos. Chem. Phys.*, in prep., 2010.
- [22] **Cionni, I., M. Righi, V. Eyring**, R. Deckert, K.-D. Gottschaldt, P. Jöckel et al., Evaluation of chemistry in EMAC in a quasi-CTM mode, *Atmos. Chem. Phys.*, in prep., 2010.
- [23] **Dall'Amico, M.**, and P. Jöckel, PLin UMEGAS: an EMAC submodel to parameterise the gas-phase chemistry in exhaust-gas plumes, *GMD*, in prep., 2010.
- [24] **Khlystova, I., V. Eyring, M. Righi, I. Cionni, H. Bovensmann, M. Schreier**, J. P. Burrows, and R. Sausen, Satellite simulator (SatSim) for a consistent evaluation of observing performance of satellite measurements, in prep., 2010.
- [25] **Klinger, C., V. Eyring**, A. Petzold, F. Fleischer, U. Fritsche, D. S. Lee, and P. Lauer, CO<sub>2</sub> emission reduction potential and climate impacts for biofuels used in international shipping, ES&T, in prep., 2010.
- [26] **Righi, M., C. Klinger, V. Eyring**, J. Hendricks, **A. Lauer**, and A. Petzold, The climate impact of biofuels in shipping: global model studies of the aerosol radiative forcing, *Environ. Sci. Tech.*, submitted, 2010.
- [27] **Righi, M., I. Cionni, V. Eyring**, R. Deckert, K.-D. Gottschaldt, P. Jöckel, et al., Ship plume effects in a global chemistry climate model study, *Atmos. Chem. Phys.*, in prep., 2010.
- [28] **Schreier, M., V. Eyring, A. Lauer**, J. P. Burrows and B. H. Kahn, Observational indication for ship-induced changes of marine cloud characteristics on the large-scale, *Atm. Research*, in prep.,

2010.

**Coauthor submitted or in press**

- [29] Butchart, N., I. Cionni, **V. Eyring**, T. G. Shepherd, D. W. Waugh, H. Akiyoshi, J. Austin, C. Brühl, M. P. Chipperfield, E. Cordero, M. Dameris, R. Deckert, S. Dhomse, S. M. Frith, R. Garcia, A. Gettelman, M. A. Giorgetta, D. E. Kinnison, F. Li, E. Mancini, C. McLandress, S. Pawson, G. Pitari, D. A. Plummer, E. Rozanov, F. Sassi, J. F. Scinocca, K. Shibata, and W. Tian, Chemistry-climate model simulations of 21st century stratospheric climate and circulation changes, *J. Clim.*, doi: 10.1175/2010JCLI3404.1, in press, 2010.
- [30] Butchart, N., A. J. Charlton-Perez, I. Cionni, S. C. Hardiman, P. H. Haynes, K. Krüger, P. Kushner, P. A. Newman, S. M. Osprey, J. Perlwitz, M. Sigmond, L. Wang, H. Akiyoshi, J. Austin, S. Bekki, A. Baumgaertner, P. Braesicke, C. Brühl, M. Chipperfield, M. Dameris, S. Dhomse, **V. Eyring**, R. Garcia, H. Garny, A. Gettelman, P. Jöckel, D. Kinnison, J.-F. Lamarque, M. Marchand, M. Michou, O. Morgenstern, T. Nakamura, S. Pawson, T. Peter, D. Plummer, J. Pyle, E. Rozanov, J. Scinocca, T. G. Shepherd, K. Shibata, D. Smale, R. Stolarski, H. Teyssedre, W. Tian, D. W. Waugh, and Y. Yamashita, Multi-model climatologies of the stratosphere, *J. Geophys. Res.*, in press, 2010.
- [31] Gillett, N. P., H. Akiyoshi, S. Bekki, **V. Eyring**, R. Garcia, C. A. McLinden, A. Yu. Karpechko, D. A. Plummer, E. Rozanov, J. Scinocca, and K. Shibata, Attribution of observed changes in stratospheric ozone and temperature, *Atmos. Chem. Phys. Discuss.*, 10, 17341-17367, 2010.
- [32] Oman, L. D., D.A. Plummer, D.W. Waugh, J. Austin, J. Scinocca, A.R. Douglass, R.J. Salawitch, T. Canty, H. Akiyoshi, S. Bekki, P. Braesicke, N. Butchart, M. Chipperfield, D. Cugnet, S. Dhomse, **V. Eyring**, S. Frith, S.C. Hardiman, D.E. Kinnison, J.F. Lamarque, E. Mancini, M. Marchand, M. Michou, O. Morgenstern, T. Nakamura, J.E. Nielsen, D. Olivie, G. Pitari, J. Pyle, E. Rozanov, T.G. Shepherd, K. Shibata, R.S. Stolarski, H. Teyssedre, W. Tian, and Y. Yamashita, Multi-model assessment of the factors driving stratospheric ozone evolution over the 21st Century, *J. Geophys. Res.*, in press, 2010.

**Coauthor 2010**

- [33] Charlton-Perez, A. J., E. Hawkins, **V. Eyring**, I. Cionni, G. E. Bodeker, D. E. Kinnison, H. Akiyoshi, S. M. Frith, R. Garcia, A. Gettelman, J. F. Lamarque, S. Pawson, R. S. Stolarski, J. Austin, S. Bekki, P. Braesicke, M. Chipperfield, S. Dhomse, E. Mancini, M. Michou, O. Morgenstern, G. Pitari, D. Plummer, J. A. Pyle, E. Rozanov, J. Scinocca, K. Shibata, T. G. Shepherd, H. Teyssedre, W. Tian, and D. W. Waugh, Quantifying uncertainty in projections of stratospheric ozone over the 21st century, *Atmos. Chem. Phys.*, 10, 9473-9486, doi:10.5194/acp-10-9473-2010, 2010.
- [34] Hegglin, M. I., A. Gettelman, P. Hoor, R. Krichevsky, G. L. Manney, L. L. Pan, S-W. Son, G. Stiller, S. Tilmes, K. A. Walker, **V. Eyring**, T. G. Shepherd, D. Waugh, H. Akiyoshi, J. Austin, A. Baumgaertner, S. Bekki, P. Braesicke, C. Brühl, N. Butchart, M. Chipperfield, M. Dameris, S. Dhomse, S. Frith, H. Garny, S. C. Hardiman, P. Jöckel, D. E. Kinnison, J. F. Lamarque, E. Mancini, M. Michou, O. Morgenstern, T. Nakamura, D. Olivie, S. Pawson, G. Pitari, D. A. Plummer, E. Rozanov, J. F. Scinocca, K. Shibata, D. Smale, H. Teyssedre, W. Tian, and Y. Yamashita, Multimodel assessment of the upper troposphere and lower stratosphere: Extratropics, *J. Geophys. Res.*, 115, D00M09, doi:10.1029/2010JD013884, 2010.
- [35] Lamarque, J.-F., T. C. Bond, **V. Eyring**, C. Granier, A. Heil, Z. Klimont, D. Lee, C. Liousse, A. Mieville, B. Owen, M. G. Schultz, D. Shindell, S. J. Smith, E. Stehfest, J. Van Aardenne, O. R. Cooper, M. Kainuma, N. Mahowald, J. R. McConnell, V. Naik, K. Riahi and D. P. van Vuuren, Historical (1850-2000) gridded anthropogenic and biomass burning emissions of reactive gases and aerosols: methodology and application, *Atmos. Chem. Phys.*, doi:10.5194/acp-10-7017-2010, 10, 7017-7039, 2010.
- [36] Morgenstern, O., M. A. Giorgetta, K. Shibata, **V. Eyring**, D.W. Waugh, T. G. Shepherd, H. Akiyoshi, J. Austin, A. J. G. Baumgaertner, S. Bekki, P. Braesicke, C. Brühl, M. P. Chipperfield, D. Cugnet, M. Dameris, S. Dhomse, S. M. Frith, H. Garny, A. Gettelman, S. C. Hardiman, M. I. Hegglin, D. E. Kinnison, J.-F. Lamarque, E. Mancini, E. Manzini, M. Marchand, M. Michou, T.

Nakamura, J. E. Nielsen, G. Pitari, D. A. Plummer, E. Rozanov, J. F. Scinocca, D. Smale, H. Teyssedre, M. Toohey, W. Tian, and Y. Yamashita, Review of present-generation stratospheric chemistry-climate models and associated external forcings, *J. Geophys. Res.*, 115, D00M02, doi:10.1029/2009JD013728, 2010.

- [37] Son, S.-W., E. P. Gerber, J. Perlwitz, L. M. Polvani, N. Gillett, K.-H. Seo, **V. Eyring**, T. G. Shepherd, D. Waugh, H. Akiyoshi, J. Austin, A. Baumgaertner, S. Bekki, P. Braesicke, C. Brühl, N. Butchart, M. P. Chipperfield, D. Cugnet, M. Dameris, S. Dhomse, S. Frith, H. Garny, R. Garcia, S. C. Hardiman, P. Jöcke, J. F. Lamarque, E. Mancini, M. Marchand, M. Michou, T. Nakamura, O. Morgenstern, G. Pitari, D. A. Plummer, J. Pyle, E. Rozanov, J. F. Scinocca, K. Shibata, D. Smale, H. Teyssedre, W. Tian, and Y. Yamashita, Impact of stratospheric ozone on Southern Hemisphere circulation change: A multimodel assessment, *J. Geophys. Res.*, 115, D00M07, doi:10.1029/2010JD014271, 2010.
- [38] SPARC CCMVal, SPARC Report on the Evaluation of Chemistry-Climate Models, **V. Eyring**, T. G. Shepherd, D. W. Waugh (Eds.), SPARC Report No. 5, WCRP-132, WMO/TD-No. 1526, <http://www.atmosp.physics.utoronto.ca/SPARC>, 2010.

#### **Coauthor 2009**

- [39] Fuglestedt, J., T. Berntsen, **V. Eyring**, I. Isaksen, D. S. Lee and R. Sausen, Shipping emissions: From cooling to warming of climate – and reducing impacts on health, *Environ. Sci. Technol.*, doi:10.1021/es901944r, 2009.
- [40] Gettelman, A., T. Birner, **V. Eyring**, H. Akiyoshi, S. Bekki, C. Brühl, M. Dameris, D. E. Kinnison, F. Lefevre, F. Lott, E. Mancini, G. Pitari, D. A. Plummer, E. Rozanov, K. Shibata, A. Stenke, H. Struthers, and W. Tian, The Tropical Tropopause Layer 1960–2100, *Atmos. Chem. Phys.*, 9, 1621-1637, 2009.
- [41] Isaksen, I.S.A. , C. Granier, G. Myhre, T.K. Berntsen, S.B. Dalsøren, M. Gauss, Z. Klimont, R. Benestad, P. Bousquet, W. Collins, T. Cox, **V. Eyring**, D. Fowler, S. Fuzzi, P. Jöckel, P. Laj, U. Lohmann, M. Maione, P. Monks, A.S.H. Prevot, F. Raes, A. Richter, B. Rognerud, M. Schulz, D. Shindell, D.S. Stevenson, T. Storelvmo, W.-C. Wang, M. van Weele, M. Wild, D. Wuebbles, Atmospheric composition change: Climate–Chemistry interactions, *Atm. Env.*, 43, 5138–5192, doi:10.1016/j.atmosenv.2009.08.003, 2009.
- [42] Tourpali, K., A. F. Bais, A. Kazantzidis, C. S. Zerefos, H. Akiyoshi, J. Austin, C. Brühl, N. Butchart, M. P. Chipperfield, M. Dameris, M. Deushi, **V. Eyring**, R. R. Garcia, M. A. Giorgetta, D. E. Kinnison, E. Mancini, E. Manzini, D. R. Marsh, T. Nagashima, G. Pitari, D. A. Plummer, E. Rozanov, J. F. Scinocca, K. Shibata, B. Steil, W. Tian and M. Yoshiki, Clear sky UV simulations in the 21st century based on Ozone and Temperature Projections from Chemistry-Climate Models, *Atmos. Chem. Phys.*, 9, 1165-1172, 2009.
- [43] Winebrake, J. J., J. J. Corbett, E. H. Green, **A. Lauer**, and **V. Eyring**, Mitigating the Health Impacts of Pollution from Oceangoing Shipping: An Assessment of Low-Sulfur Fuel Mandates, *Environ. Sci. Technol.*, 49, 13, 4777-, 4782, doi: 10.1021/es803224q, 2009.

#### **Coauthor 2008**

- [44] Braesicke, P., C. Brühl, M. Dameris, R. Deckert, **V. Eyring**, M.A. Giorgetta, E. Mancini, E. Manzini, G. Pitari, J.A. Pyle, and B. Steil, A model intercomparison analysing the link between ozone and geopotential height anomalies in January, *Atmos. Chem. Phys.*, 8, 2519-2535, 2008.
- [45] Waugh, D. W. and **V. Eyring**, Quantitative performance metrics for stratospheric-resolving chemistry-climate models, *Atmos. Chem. Phys.*, 8, 5699-5713, 2008.

#### **Coauthor 2007**

- [46] Corbett, J. J., J. J. Winebrake, E. H. Green, P. Kasibhatla, **V. Eyring**, and A. Lauer: Mortality from Ship Emissions: A Global Assessment, *Environ. Sci. Technol.*, doi: 10.1021/es071686z, 2007.

#### **Coauthor 2006**

- [47] Erbertseder, T., **V. Eyring**, M. Bittner, M. Dameris, and V. Grewe: Hemispheric ozone

variability indices derived from satellite observations and as diagnostics for coupled chemistry-climate models, *Atmos. Chem. Phys.*, 6, 5105-5120, 2006.

- [48] Kinne, S., M. Schulz, C. Textor, S. Guibert, Y. Balkanski, S. E. Bauer, T. Berntsen, T. F. Berglen, O. Boucher, M. Chin, W. Collins, F. Dentener, T. Diehl, R. Easter, J. Feichter, D. Fillmore, S. Ghan, P. Ginoux, S. Gong, A. Grini, J. Hendricks, M. Herzog, L. Horowitz, I. Isaksen, T. Iversen, A. Kirkevåg, S. Kloster, D. Koch, J. E. Kristjansson, M. Krol, **A. Lauer**, J. F. Lamarque, G. Lesins, X. Liu, U. Lohmann, V. Montanaro, G. Myhre, J. Penner, G. Pitari, S. Reddy, O. Seland, P. Stier, T. Takemura, and X. Tie: An AeroCom initial assessment - optical properties in aerosol component modules of global models, *Atmos. Chem. Phys.*, 6, 1815-1834, 2006.
- [49] Schwarz, J. P., R.S. Gao, D.W. Fahey, D.S. Thomson, L.A. Watts, J.C. Wilson, J.M. Reeves, D.G. Baumgardner, G.L. Kok, S.H. Chung, M. Schulz, J. Hendricks, **A. Lauer**, B. Kärcher, J.G. Slowik, K.H. Rosenlof, T.L. Thompson, A.O. Langford, M. Loewenstein, and K.C. Aikin: Single-particle measurements of midlatitude black carbon and lightscattering aerosols from the boundary layer to the lower stratosphere, *J. Geophys. Res.*, 111, D16207, doi:10.1029/2006JD007076, 2006.
- [50] Textor, C., M. Schulz, S. Guibert, S. Kinne, Y. Balkanski, S. Bauer, T. Berntsen, T. Berglen, O. Boucher, M. Chin, F. Dentener, T. Diehl, R. Easter, H. Feichter, D. Fillmore, S. Ghan, P. Ginoux, S. Gong, A. Grini, J. Hendricks, L. Horowitz, P. Huang, I. Isaksen, T. Iversen, S. Kloster, D. Koch, A. Kirkevåg, J. E. Kristjansson, M. Krol, **A. Lauer**, J. F. Lamarque, X. Liu, V. Montanaro, G. Myhre, J. Penner, G. Pitari, S. Reddy, Ø. Seland, P. Stier, T. Takemura, and X. Tie: Analysis and quantification of the diversities of aerosol life cycles within AeroCom, *Atmos. Chem. Phys.*, 6, 1777-1813, 2006.

#### **Coauthor 2005**

- [51] Dameris, M., V. Grewe, M. Ponater, R. Deckert, **V. Eyring**, F. Mager, S. Matthes, C. Schnadt, A. Stenke, B. Steil, C. Brühl, and M. Giorgetta: Long-term changes and variability in a transient simulation with a chemistry-climate model employing realistic forcings, *Atmos. Chem. Phys.*, 5, 2121-2145, 2005.

#### **Coauthor 2004**

- [52] Grewe, V., D. T. Shindell, and **V. Eyring**: The impact of horizontal transport on the chemical composition in the tropopause region: lightning NO<sub>x</sub> and streamers, *Advances in Space Research*, 33, 1058-1061 doi:10.1016/S0273-1177(03)00589-1, 2004.
- [53] Richter, A., **V. Eyring**, J. P. Burrows, **H. Bovensmann**, **A. Lauer**, B. Sierk, and P. J. Crutzen: Satellite measurements of NO<sub>2</sub> from international shipping emissions, *Geophys. Res. Lett.*, 31, L23110, doi:10.1029/2004GL020822, 2004.

#### ■ Contributions to International Assessment Reports

- [54] **Lead Author** for the *IPCC WG1 Fifth Assessment Report*, Chapter 9: Flato, G., J. Marotzke, B. Abiodun, P. Braconnot, S. C. Chou, W. Collins, P. Cox, F. Driouech, S. Emori, **V. Eyring**, C. Forest, P. Gleckler, E. Guilyardi, C. Jakob, V. Kattsov, C. Reason, and M. Rummukainen, Evaluation of Climate Models, in preparation, 2013.
- [55] **Lead Author** and **Co-Author** for the WMO/UNEP Scientific Assessment of Ozone Depletion: 2010, Chapter 3: Bekki, S., G. E. Bodeker, A. F. Bais, N. Butchart, **V. Eyring**, D. W. Fahey, D. E. Kinnison, U. Langematz, B. Mayer, R. W. Portmann, E. Rozanov, P. Braesicke, A. J. Charlton-Perez, N. E. Chubarova, **I. Cionni**, S. B. Diaz, N. P. Gillett, M. A. Giorgetta, N. Komala, F. Lefèvre, C. McLandress, J. Perlwitz, T. Peter, and K. Shibata, Future Ozone and its Impact on Surface UV, 2011.
- [56] **Coordinating Lead Author** for the *European Assessment of Transport Impacts on Climate Change and Ozone Depletion*, Chapter 3: **Eyring, V.**, I. S. A. Isaksen, T. Berntsen, W. J. Collins, J. J. Corbett, O. Endresen, R. G. Grainger, J. Moldanova, H. Schlager, and D. S. Stevenson,

Transport impacts on atmosphere and climate: Shipping, *Atm. Env.*, doi:10.1016/j.atmosenv.2009.04.059, 2009.

- [57] **Co-Author** for *WMO/UNEP Scientific Assessment of Ozone Depletion: 2006*, Chapter 6: Bodeker, G. E., D. W. Waugh, H. Akiyoshi, P. Braesicke, **V. Eyring**, D. W. Fahey, David, E. Manzini, M. Newchurch, R. W. Portmann, A. Robock, K. P. Shine, W. Steinbrecht, and E. C. Weatherhead: The Ozone Layer in the 21st Century, In: World Meteorological Organization, Global Ozone Research and Monitoring Project, Report No. 50, Geneva, Switzerland, 2007.
- [58] **Contributing Author** for *IPCC WG1 Fourth Assessment Report*, Chapter 7: Denman, K.L., G. Brasseur, et al.: Couplings Between Changes in the Climate System and Biogeochemistry. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K. B. Averyt, M. Tignor and H. L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 2007.

#### ■ Habilitation, Dissertations etc

- [59] **Eyring, V.**, Modelling of the Coupled Chemistry-Climate System: Projections of Stratospheric Ozone in the 21st Century and Impact of Shipping on Atmospheric Composition and Climate, Habilitationsschrift, DLR Forschungsbericht 2008-07, 2008.
- [60] **Franke, K.**, Analyse von NO<sub>x</sub>-Emissionen des Schiffsverkehrs mittels Modellierung und Satellitendaten (Analysis of NO<sub>2</sub> emissions from shipping with models and remote sensing data), Bremen, Universität Bremen, urn:nbn:de:gbv:46-diss000111913, 2008.
- [61] **Klinger, C.**, CO<sub>2</sub> Klimawirkung und Minderungspotential für alternative Treibstoffe in der Schifffahrt, Bachelorarbeit, Ludwig-Maximilians-Universität (LMU), München Fakultät für Physik, Meteorologisches Institut München, 2010.
- [62] **Paxian, A.**, Aufbau eines globalen Bottom-up-Schiffsemissionskatasters unter Berücksichtigung zukünftiger polarer Schiffsrouten, Diplomarbeit, Ludwig-Maximilians-Universität (LMU) München, Department für Geographie Lehrstuhl für Geographie und Geographische Fernerkundung, 2008.
- [63] **Schreier, M.**, Der indirekte Einfluss von Aerosol von Schiffsemissionen auf den Strahlungshaushalt der Atmosphäre: Untersuchung mittels Fernerkundungsdaten, Bremen, Univ, elektr. Diss., 2007.

#### ■ Project Reports:

- [64] Buhaug, Ø., J. J. Corbett, Ø. Endresen, **V. Eyring**, J. Faber, S. Hanayama, D. S. Lee, D. Lee, H. Lindstad, A.Z. Markowska, A. Mjelde, D. Nelissen, J. Nilsen, C. Pålsson, J. J. Winebrake, W.-Q. Wu, and K. Yoshida, Second IMO GHG study 2009; International Maritime Organization (IMO) London, UK, March, 2009.
- [65] Buhaug, Ø., J. J. Corbett, Ø. Endresen, **V. Eyring**, J. Faber, S. Hanayama, D. S. Lee, H. Lindstad, A. Mjelde, C. Pålsson, W. Wanqing, J. J. Winebrake, and K. Yoshida, Updated Study on Greenhouse Gas Emissions from Ships: Phase I Report; International Maritime Organization (IMO) London, UK, 1 September, p. 129, 2008.
- [66] **Eyring, V.**, H. Bovensmann, K. Franke, A. Lauer, and M. Schreier, Impact of Ship Emissions on Atmosphere and Climate, SeaKLIM Evaluation Report, [http://www.pa.op.dlr.de/SeaKLIM/SeaKLIM\\_DLR\\_EvaluationReport.pdf](http://www.pa.op.dlr.de/SeaKLIM/SeaKLIM_DLR_EvaluationReport.pdf), 2006.
- [67] **Eyring, V.**, H. Bovensmann, I. Cionni, M. Dall'Amico, K. Franke, I. Khlystova, C. Klinger, A. Lauer, A. Paxian, M. Righi, and M. Schreier, Impact of Ship Emissions on Atmosphere and Climate, SeaKLIM Final Report, [http://www.pa.op.dlr.de/SeaKLIM/SeaKLIM\\_Nachwuchsgruppe\\_Schlussbericht\\_FINAL.pdf](http://www.pa.op.dlr.de/SeaKLIM/SeaKLIM_Nachwuchsgruppe_Schlussbericht_FINAL.pdf), 2010.
- [68] Faber, J., A. Markowska, D. Nelissen, M. Davidson, **V. Eyring**, I. Cionni, E. Selstad, p.

Kageson, D. Lee, O. Buhaug, H. Lindtsad, P. Roche, E. Humpries, J. Graichen, M. Cames, W. Schwarz, Technical support for European action to reducing Greenhouse Gas Emissions from international maritime transport, CE Delft Report, Publication number: 09.7731.78, p. 350, December 2009.

- [69] Faber, J., A. Markowska, **V. Eyring**, I. Cionni, and E. Selstad, A Global Maritime Emissions Trading System, Design and Impacts on the Shipping Sector, Countries and Regions, CE Delft Report, Publication number: 10.7829.05, Commissioned by: Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety), 2010.
- [70] Lange, B., **V. Eyring**, J. Isensee, and P. Schenzle, Klimaschutz im Seeverkehr: Potentiale erkennen und handeln, Aktionskonferenz Nordsee e. V., Bremen, 2009.

■ Books:

- [71] Petzold, A., **V. Eyring**, F. Fleischer, P. Lauer, and U. Fritsche, Biotreibstoffe in der Schifffahrt und zur Stromerzeugung – eine erste Bilanz des Projekts BIOCLEAN, in *Klimaschutz und Anpassung an die Klimafolgen*, [M. Mahammadzadeh, H. Biebler, and H. Bardt (eds.)], Institut der deutschen Wirtschaft in Köln, p.35-42, 2009.
- [72] Sausen, R., R. Deckert, P. Jöckel, V. Aquila, S. Brinkop, U. Burkhardt, I. Cionni, M. Dall'Amico, M. Dameris, S. Dietmüller, **V. Eyring**, K.-D. Gottschaldt, V. Grewe, J. Hendricks, M. Ponater, and M. Righi, Global chemistry-climate modelling with EMAC, Springer. Fourth Joint HLRB and KONWIHR Review and Results Workshop, 8-9 Dec 2009, Garching, Germany. ISBN 9788 3 642 13871 3, 2010.

■ Newsletter, Workshop Reports, Discussion Papers

- [73] Baldwin, M., G. Bodeker, J. P. Burrows, **V. Eyring**, S. Hayashida, P. H. Haynes, T. Peter, and A. Thompson, Report on the 4th SPARC General Assembly, *SPARC Newsletter No. 32*, p.8-d13, 2009.
- [74] **Eyring, V.**, Michael Manton, and Detlef Stammer, Promoting the confrontation of models with observations and results of process studies, Discussion Paper for WCRP Modelling Coordination Meeting, <http://wcrp.ipsl.jussieu.fr/Workshops/ModellingMeeting/>, 2010.
- [75] **Eyring, V.**, T. G. Shepherd, D. W. Waugh, SPARC Report on the Evaluation of Chemistry Climate Models, *SPARC Newsletter No. 35*, p.6-7, 2010.
- [76] **Eyring, V.**, A. Gettelman, N. R. P. Harris, S. Pawson, T. G. Shepherd, D. W. Waugh, H. Akiyoshi, N. Butchart, M. P. Chipperfield, M. Dameris, D. W. Fahey, P. M. de F. Forster, P. A. Newman, M. Rex, R. J. Salawitch, and B. D. Santer, Report on the Third SPARC CCMVal Workshop, *SPARC Newsletter No. 30*, p.17-19, 2008.
- [77] **Eyring, V.**, M. P. Chipperfield, M. A. Giorgetta, D. E. Kinnison, E. Manzini, K. Matthes, P. A. Newman, S. Pawson, T. G. Shepherd, and D. W. Waugh, Overview of the New CCMVal Reference and Sensitivity Simulations in Support of Upcoming Ozone and Climate Assessments and the Planned SPARC CCMVal Report, *SPARC Newsletter No. 30*, p.20-26, 2008.
- [78] **Eyring, V.**, A. Gettelman, N. R. P. Harris, S. Pawson, T. G. Shepherd, N. Butchart, M. P. Chipperfield, M. Dameris, D. W. Fahey, P. M. de F. Forster, P. A. Newman, R. J. Salawitch, B. D. Santer, and D. W. Waugh: Summary of the CCMVal 2005 Workshop on “Process-Oriented Validation of Coupled Chemistry-Climate Models, *SPARC Newsletter No. 26*, 28-29, 2006.
- [79] **Eyring V.**, D. E. Kinnison, and T. G. Shepherd: Overview of planned coupled chemistry-climate simulations to support upcoming ozone and climate assessments, *SPARC Newsletter No. 25*, 11-17, 2005.
- [80] **Eyring V.**, N. R. P. Harris, M. Rex, T. G. Shepherd, D. W. Fahey, G. T. Amanatidis, J. Austin, M. P. Chipperfield, M. Dameris, P. M. de F. Forster, A. Gettelman, H. F. Graf, T. Nagashima, P. A. Newman, M. J. Prather, J. A. Pyle, R. J. Salawitch, B. D. Santer, and D.W. Waugh:

Comprehensive Summary on the Workshop on "Process-Oriented Validation of Coupled Chemistry-Climate Models", SPARC Newsletter No. 23, 5-11, 2004.

- [81] **Eyring V.**, N. R. P. Harris, M. Rex, T. G. Shepherd, D. W. Fahey, J. Austin, M. Dameris, H. Graf, T. Nagashima, and B. D. Santer: Brief report on the Workshop on Process-Oriented Validation of Coupled Chemistry-Climate Models, SPARC Newsletter No. 22, 27-28, 2004.
- [82] Knutti, R., G. Abramowitz, M. Collins, **V. Eyring**, P.J. Gleckler, B. Hewitson, and L. Mearns, Good Practice Guidance Paper on Assessing and Combining Multi Model Climate Projections. In: Meeting Report of the Intergovernmental Panel on Climate Change Expert Meeting on Assessing and Combining Multi Model Climate Projections [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, and P.M. Midgley (eds.)]. IPCC Working Group I Technical Support Unit, University of Bern, Bern, Switzerland, 2010.
- [83] Lamarque, J.-F., C. Granier, T. Bond, **V. Eyring**, A. Heil, M. Kainuma, D. Lee, C. Liou, A. Mieville, K. Riahi, M. Schultz, S. Smith, E. Stehfest, D. Stevenson, A. Thomson, J. Van Aardenne, and D. Van Vuuren, Gridded emissions in support of IPCC AR5, IGAC Newsletter, 41, 12-18, 2009.
- [84] Manzini, E., S. Corti, **V. Eyring**, M. A. Giorgetta, T. G. Shepherd, A SPARC Perspective on the World Modelling Summit, *SPARC Newsletter No. 32*, p.25-26, 2009.

■ Proceedings etc. (selection)

- [85] **Bovensmann H.**, SCIAMACHY Bild des Monats, July, DLR, 2005.
- [86] **Bovensmann, H., V. Eyring, K. Franke, A. Lauer, M. Schreier**, A. Richter, and J. P. Burrows: Emissions of international shipping as seen by satellites, Proceedings of the ESA Atmospheric Science Conference, Frascati, Italy, 8-12 May, 2006.
- [87] **Eyring, V.**, J.J. Corbett, D.S. Lee, J.J. Winebrake, Brief summary of the impact of ship emissions on atmospheric composition, climate, and human health; Health and Environment Sub-Group of the International Maritime Organization: London, UK, 6 November 2007.
- [88] **Eyring V.**, and H. W. Köhler: Past, Present-Day and Forecasting Inventories for International Shipping and Potential Impact on Climate: Co-operation between Industry and Academia, *Proceedings of the Marine & Power Emissions Conference 2005*, 29 November 2005, London, UK, 153-161, 2005.
- [89] **Eyring, V.**, and H. W. Köhler: The impact of ship emissions on climate, *The Motor Ship*, 32-34, 2005.
- [90] **Eyring, V.**, N. R. P. Harris, M. Rex, T. G. Shepherd, D. W. Fahey, G. Amanatidis, J. Austin, M. Dameris, H. F. Graf, T. Nagashima, P. A. Newman, and B. D. Santer: Process-oriented validation of coupled chemistry-climate models, *Proceedings of the Quadrennial Ozone Symposium*, 1-8 June 2004, KOS, Greece, 744-745, 2004.
- [91] **Eyring V.**, V. Grewe, R. Sausen, A. Petzold, H. Schlager, and U. Schumann: Impact of ship emissions on climate and compliance with future emission regulations through technological improvements, Proceedings of the *Marine Propulsion Conference*, Amsterdam, The Netherlands, 28-29 April, 2004.
- [92] **Lauer, A.**, and J. Hendricks: The role of aerosol dynamics in the global atmospheric aerosol budget: Simulations with ECHAM4/MADE. Proceedings of the European Aerosol Conference, Budapest, HU, 6-10 September 2004, *Journal of Aerosol Science*, 1197-1198, 2004.
- [93] **Lauer, A.**: Untersuchung von Größenverteilung und Zusammensetzung des troposphärischen Aerosols mit einem globalen Zirkulationsmodell, DLR-Forschungsbericht 2005-17, DLR Oberpfaffenhofen, Wessling, Germany, ISSN 1434-8454, 2005.
- [94] Lee, D. S., L. L. Lim, **V. Eyring**, R. Sausen, Ø. Endresen, and H.-L. Behrens: Radiative forcing and temperature response from shipping, In: *Proceedings of the International Conference on Transport, Atmosphere and Climate (TAC)*, Oxford, UK, 208-213, 2007.
- [95] **Schreier, M., V. Eyring, H. Bovensmann**, J.P. Burrows, Ship Tracks – Monitoring of Cloud Modifications by Ship Emissions with Satellite Observations, Proceeding to 2nd international



scientific conference on Harbours, Air Quality and Climate Change, Rotterdam, 29-30 May, 2008.

■ Invited Talks

- [96] **Bovensmann, H., M. Schreier, A. Richter, J.P. Burrows, H. Mannstein, A. Lauer, V. Eyring,** Estimating the Climate Impact of International Shipping by using Satellite Data, ENVISAT Symposium, Montreux, 23.-27.4, 2007.
- [97] **Cionni, I., G. Bodeker, V. Eyring, T. Shepherd and D. Waugh,** Multi-model mean ozone time series in support of CMIP5 simulations, CCMVal 2009 Workshop, Toronto, 1-5 June 2009.
- [98] **Eyring, V.,** Activities and views of the WGNE/WGCM metrics panel and WGCM, THORPEX Predictability and Dynamical Processes Working Group and WGNE Workshop "Diagnosis of Model Errors", ETH, Zurich, 7 to 9 July 2010.
- [99] **Eyring, V.,** Vorhersagen von stratosphärischem Ozon im 21. Jahrhundert, Fakultätskolloquium der Physik, Ludwig-Maximilians-Universität München, 16 June 2010.
- [100] **Eyring, V.,** and P. Friedlingstein, A Framework for Process-Oriented Evaluation of Earth System Models (talk presented by P. Friedlingstein), Earth System Science 2010: Global Change, Climate and PeopleAIMES Open Science Conference, Edinburgh, UK, 10-13 May 2010.
- [101] **Eyring, V.,** Quantitative performance metrics for stratospheric-resolving chemistry-climate models, AS3 Atmospheric Seminar, PCMDI, Livermore, US, 1 October 2009.
- [102] **Eyring, V.,** Beitrag zum Thema: "Auswirkungen der Seeschifffahrt auf Gesundheit und Klima", Workshop „Emissionshandel im Schiffsverkehr“, Berlin, 19. Mai 2009.
- [103] **Eyring, V.,** Second IMO GHG Study 2009, Presentation on Climate Impacts, MEPC 59, London, IMO Hedaquarters, 13 July 2009.
- [104] **Eyring, V.,** How right or wrong is your model? An experience from CCMVal, CATE Research Away Days, Shrigley Hall, Derbyshire, 5-7 May 2009.
- [105] **Eyring, V.,** Beitrag zum Thema: "Wie viel Container verträgt das Klima? Schiffsemissionen - ein unterschätztes Problem", Klima Verkehr(t) - Was der Verkehr zum Klimaschutz beitragen muss Deutscher Bundestag, Paul-Löbe-Haus, Berlin, 18. Oktober 2008.
- [106] **Eyring, V.,** Updated Study on Greenhouse Gas Emissions from Ships, Phase 1 Report on Climate Impacts, MEPC 58, London, IMO Hedaquarters, 5 October 2008.
- [107] **Eyring, V.:** Impact of Ship Emissions on Atmospheric Composition, Climate, and Human Health, IMO Expert Group Meeting, London, 7 November, 2007.
- [108] **Eyring, V.:** Emissions from ships: past and future trends, Seminar – Brussels, What to do about air pollution and greenhouse gas emissions from maritime transport, Brussels, Belgium, 17 October, 2007.
- [109] **Eyring, V.:** Past, Present-day and Future Ship Emissions, Technical workshop meeting on emissions from aviation and maritime transport, Oslo, Norway; 4-5 October, 2007.
- [110] **Eyring V.:** Coupled Chemistry-Climate Model Assessment and Projections of Ozone Recovery in the 21st century, International Union of Geodesy and Geophysics (IUGG), Perugia, Italy, 4 July, 2007.
- [111] **Eyring V.:** Shipping and Geoengineering, 36th Environmental conference University of Hohenheim, Hohenheim, Germany, 27 April, 2007.
- [112] **Eyring V.:** Coupled Chemistry-Climate Model Assessment and Projections of Ozone Recovery in the 21st century, Applied Remote Sensing Cluster Seminar, DLR, Oberpfaffenhofen, Germany, 25 October, 2006.
- [113] **Sausen R., and Eyring V.:** An Introduction to QUANTIFY, Fifth Community Aeronautical Days 2006, Vienna, Austria, 19 June, 2006.
- [114] **Eyring V. and H. W. Köhler:** Past, Present-Day and Forecasting Inventories for International Shipping and Potential Impact on Climate: Co-operation between Industry and Academia, Marine & Power Emissions Conference 2005, London, UK, 29 November, 2005.

- [115] **Eyring, V.:** Impact of ship emissions on climate and atmospheric chemistry, NOAA Chemical Sciences Division Seminar, Boulder, Colorado, USA, 14 October, 2005.
- [116] **Eyring, V.:** Validation of coupled chemistry-climate models, SCOUT-O3 Annual Meeting, Zürich, Switzerland, 7-10 March, 2005.
- [117] **Eyring, V.:** Impact of traffic emissions on climate and atmospheric chemistry, Canadian Centre for Climate Modelling and Analysis, Victoria, Canada, 11 August, 2004.
- [118] **Eyring, V.:** Impact of traffic emissions on climate and atmospheric chemistry, University of Toronto, Canada, 30 July, 2004.
- [119] **Eyring, V.:** Impact of Ship Emissions on Climate and Compliance with Future Emission Regulations through Technological Improvements, Marine Propulsion Conference 2004, Amsterdam, The Netherlands, 28-29 April, 2004.
- [120] **Righi, M., V. Eyring, J. Hendricks,** How large is the indirect cloud effect from ships? QUANTIFY Final Meeting, Munich, Germany, 25-27 Jan 2010.

■ Other Talks and Poster Presentations

- [121] **Bovensmann H., V. Eyring, K. Franke, A. Lauer, M. Schreier,** A. Richter, and J.P. Burrow: Emissions of international shipping as seen by satellites (Talk), 31st International Symposium on Remote Sensing of the Environment Saint Petersburg, Russia, 20-24 June, 2005.
- [122] **Bovensmann H., K. Franke,** A. Richter, J.P. Burrows, P. Hoor P. Jöckel, **V. Eyring,** Estimating Ship emitted NO<sub>2</sub> in the Indian Ocean using satellite data (Talk), ESA Atmospheric Science Conference, Barcelona, 7.-11.9, 2009.
- [123] **Eyring, V.,** H. Bovensmann, and A. Richter: Einfluss von Schiffsemissionen auf Atmosphäre und Klima (Invited talk presented by H. Bovensmann), UBA / GAUSS Workshop Schadstoffemissionen großer Schiffsdieselmotoren, Bremen, 12 May, 2004.
- [124] **Eyring, V.:** Verkehrsemissionen und Klima, Physikalisches Kolloquium der Universität Bremen, 3 June, 2004.
- [125] **Eyring, V.:** Einfluss von Schiffsemissionen auf Atmosphäre und Klima: Ergebnisse der Nachwuchsgruppe SeaKLIM, Institutsseminar des Instituts für Physik der Atmosphäre (Talk), DLR Oberpfaffenhofen, 4 July, 2005.
- [126] **Eyring, V.,** Köhler, H.W., Aardenne, J. van, **Lauer, A.,** Lemper, B.: Emissions From International Shipping Over the Last 50 Years and Future Scenarios Until 2050. 1st international conference on Harbours and Air Quality (Talk), Genova, I, 15-17 June, 2005.
- [127] **Eyring, V.,** D.S. Stevenson, **A. Lauer,** F.J. Dentener, T. Butler, W.J. Collins, K. Ellingsen, M. Gauss, D.A. Hauglustaine, I.S.A. Isaksen, M.G. Lawrence, A. Richter, J.M. Rodriguez, M. Sanderson, S.E. Strahan, K. Sudo, S. Szopa, T.P.C. van Noije, and O. Wild: Multi-model simulations of the impact of international shipping on atmospheric chemistry and climate in 2000 and 2030 (Poster), EGU, Wien, Austria, 2-7 April, 2006.
- [128] **Eyring, V.,** D.S. Stevenson, **A. Lauer,** F.J. Dentener, T. Butler, W.J. Collins, K. Ellingsen, M. Gauss, D.A. Hauglustaine, I.S.A. Isaksen, M.G. Lawrence, A. Richter, J.M. Rodriguez, M. Sanderson, S.E. Strahan, K. Sudo, S. Szopa, T.P.C. van Noije, and O. Wild: Multi-model simulations of the impact of international shipping on atmospheric chemistry and climate in 2000 and 2030 (Talk), International Conference on Transport, Atmosphere and Climate, Oxford, UK, 26-29 June, 2006.
- [129] **Franke, K., V. Eyring, H. Bovensmann,** and J.P. Burrows: Modellierung der chemischen Entwicklung von Schiffsemissionen (Poster), 69. Jahrestagung der Deutschen Physikalischen Gesellschaft (DPG), Berlin, 4-9 March, 2005.
- [130] **Franke, K., V. Eyring,** R. Sander, J. Hendricks, **A. Lauer, H. Bovensmann,** and R. Sausen: Ship emissions in the marine boundary layer: Ozone production and effective emissions (Poster), International Conference on Transport, Atmosphere and Climate, Oxford, UK, 26-29 June, 2006.
- [131] **Khlystova, I., V. Eyring, M. Righi, I. Cionni, H. Bovensmann, M. Schreier,** J. P. Burrows,

and R. Sausen, Satellite simulator (SatSim) for a consistent evaluation of observing performance of satellite measurements, A new satellite simulation tool, COSPAR conference, Bremen, July, 2010.

- [132] **Lauer, A.**, Global model simulations of the impact of ocean-going ships on aerosols, clouds, and the radiation budget, Joint IPRC-Meteorology Seminar, University of Hawaii, Honolulu, USA; 10 October 2007.
- [133] **Lauer, A.**: Simulation des troposphärischen Aerosols mit ECHAM4/MADE unter besonderer Berücksichtigung der Russemissionen des Straßenverkehrs, Gemeinsames Seminar des Instituts für Meteorologie, Fachbereich Geowissenschaften, FU Berlin, November, 2005.
- [134] **Lauer, A.**: Simulation des troposphärischen Aerosols mit ECHAM4/MADE unter besonderer Berücksichtigung der Russemissionen des Straßenverkehrs (Talk), Institutsseminar des Instituts für Physik der Atmosphäre, DLR Oberpfaffenhofen, 19 January, 2004.
- [135] **Lauer, A.**, and J. Hendricks: The global model system ECHAM/MADE (Poster), 4<sup>th</sup> AeroCom workshop, Oslo, Norway, 15-17 June, 2005.
- [136] Sausen R., and **V. Eyring**: An introduction to QUANTIFY (Invited talk presented by V. Eyring), Aeronautics Days 2006, Sustainable Solutions for New Horizons, Vienna, Austria, 19-21 June, 2006.
- [137] **Righi, M., V. Eyring, J. Hendricks**, Simulating effects of global shipping on aerosol and clouds with ECHAM5/MESSy/MADE EMAC Symposium, Mainz, Germany, 10 Dec 2009.
- [138] **Righi, M., V. Aquila, J. Hendricks, V. Eyring, A. Lauer, U. Lohmann, N. Riemer, and H. Vogel**, The global aerosol-climate model ECHAM5/MESSy1-MADE(soot) AEROCOM workshop, , Princeton, USA, 5-7, Oct 2009.
- [139] **Righi, M., C. Klinger, V. Eyring, J. Hendricks, A. Lauer**, and A. Petzold: The climate impact of biofuels in shipping: global model studies of the aerosol radiative forcing AEROCOM workshop, Oxford, GB, 27-30 Sep 2010.
- [140] **Schreier, M., V. Eyring, H. Bovensmann, J.P. Burrows**: Ship Tracks – Monitoring of Cloud Modifications by Ship Emissions with Satellite Observations, 2nd international, scientific conference on Harbours, Air Quality and Climate Change, Rotterdam, 30 May 2008.
- [141] **Schreier, M.**, Ship Tracks – Cloud Modifications by Ship Emissions , Swedish Meteorological and Hydrological Institute, Norrköping, 12 February 2008.
- [142] **Schreier, M.**, Ship Tracks – Cloud Modifications by Ship Emissions Observed in Satellite Data, Jet Propulsion Laboratory (NASA), California, 27 August 2008.
- [143] **Schreier, M.**: Ship Tracks – Cloud modifications by ship emissions (Talk), Seminar on Physics and Chemistry of the Atmosphere, Institute of Environmental Physics, Bremen, Germany, 9 June, 2006.
- [144] **Schreier, M., H. Mannstein, V. Eyring, and H. Bovensmann**: Global Distribution of ship tracks from one year of AATSR data. (Talk), International Conference on Transport, Atmosphere and Climate, Oxford, UK, 26-29 June, 2006.
- [145] **Schreier, M., V. Eyring, and H. Bovensmann**: Modifications of cloud properties due to ship emissions – quantitative analysis of changes in solar irradiance and backscattered light (Poster), EGU, Wien, Austria, 25-29 April, 2006.
- [146] **Schreier, M., H. Bovensmann, V. Eyring, A. Kokhanovsky, and J.P. Burrows**: Cloud-modifications by ship emissions derived from remote sensing data (Poster), EGU, Vienna, Austria, 25-29 April, 2005.