Ringberg meeting “Bounding the aerosol effective radiative forcing”

26 February – 2 March 2018, Schloss Ringberg, Kreuth, Germany

Goal:
The aim is to exclude unlikely strong and weak aerosol forcings (e.g. provide arguments why the aerosol forcing cannot be more negative than -1.5 Wm\(^{-2}\), or why it cannot be positive). We aim for likelihood rather than certainty.

Each participant is invited to submit a 1-page list of theses about likely/unlikely aerosol to the group ringberg@lists.uni-leipzig.de before the workshop.

Concept:
One presenter per session
- prepares a limited number of theses that quantify or constrain forcings/mechanisms
- all participants are invited to submit theses to the presentations
- theses can (should) be corroborated briefly by explanations/graphics/references
- presenters distribute the theses until late January so participants can prepare for the discussions

At the meeting, one rapporteur per session
- moderates the plenum discussions and
- takes notes for the wrap-up discussions on Friday

A large part of the discussions will be in breakout groups:
- three breakout groups with 10-12 participants each;
- distribution will be randomly selected and change each time, and
- a rapporteur per breakout group per session will also be randomly appointed

Location:
Ringberg Castle (www.schloss-ringberg.de). Participants are expected to cover their own expenses (travel to Munich + 2 hr train from airport / 1 hr from railway station plus 126 € / night including all meals) and be in residence for the duration of the workshop. If financial restrictions might prevent you from coming please let us know and we will look for ways to help offset some or all of the costs.

Preliminary Programme

Monday 26 February 2018
13.00 h Lunch
14.00 h Welcome and goal of the workshop
   Session 1: Possibilities for strong and weak ERFaer
14.30 h Presentation of theses (Forster / rapporteur: Stevens)
15.00 h Discussions
16.00 h Coffee
16.30 h Breakout group discussions
18.00 h Plenum: reports from breakout groups
19.00 h Dinner

1 We have some funding from the German Research Foundation for the Workshop, and the explanation we provided for them is slightly more exhaustive in case you are interested: http://tinyurl.com/ringberg
Tuesday 27 February 2018

Session 2: Radiative forcing by aerosol-radiation interactions (direct effect)
9.00 h Presentation of theses: anthropogenic aerosol perturbation (Schulz / Bellouin)
9.30 h Plenum discussions
10.30 h Coffee
11.00 h Breakout group discussions
12.30 h Plenum: reports from breakout groups
13.00 h Lunch
14.30 h Presentation of theses: radiative efficiency and cloud masking (Kinne / Stier)
15.00 h Plenum discussions
15.30 h Coffee
16.00 h Breakout group discussions
17.30 h Plenum: reports from breakout groups
19.00 h Dinner

Wednesday 28 February 2018

Session 3: Radiative forcing by aerosol-cloud interactions (Twomey effect)
9.00 h Presentation of theses (Gettelman / Quaas)
9.30 h Breakout group discussions
11.00 h Coffee
11.30 h Plenum: Report from breakout groups, and discussion: Total radiative forcing

Session 4: Adjustments (effective forcing)²
12.30 h Presentation of theses: Liquid cloud fraction, liquid water path (Gryspeerdt / Haywood)
13.00 h Lunch
14.30 h Presentation of theses: Ice clouds “and other wild cards” (Storelvmo / Lohmann)
15.00 h Coffee
15.30 h Breakout group discussions
17.00 h Plenum: reports from breakout groups (both afternoon), discussion on cloud adjustments
18.00 h Guided tour of the castle
19.00 h Dinner (Bavarian evening)

Thursday 1 March 2018

Session 5: Implications for climate sensitivity and top-down constraints
9.00 h Presentation of theses (Forest / Myhre)
9.30 h Discussion in plenum
10.30 h Coffee
11.00 h Breakout group discussions
12.30 h Plenum: reports from breakout groups
13.00 h Lunch
15.00 h Hike
19.00 h Dinner

Friday 2 March 2018

Session 6: Conclusions
9.00 h Session summaries by session rapporteurs
10.00 h Discussions
11.00 h Coffee
11.30 h Final discussions
13.00 h Lunch
14.30 h End of meeting

² These sessions intentionally have a little less time since the workshop intends to give more time to what is better known than to what is unknown.
Participants (invitation only):

1. Nicolas Bellouin, University of Reading
2. Olivier Boucher, Institut Pierre Simon Laplace/CNRS, Paris
3. Ken Carslaw, University of Leeds
4. Matt Christensen, RAL Oxford
5. Anne-Laure Daniu, Université de Bordeaux
6. Jean-Louis Dufresne, Laboratoire de Météorologie Dynamique/CNRS, Paris
7. Graham Feingold, NOAA Boulder
8. Stephanie Fiedler, Max Planck Institute for Meteorology, Hamburg
9. Chris Forest, Penn State University
10. Piers Forster, University of Leeds
11. Andrew Gettelman, NCAR Boulder
12. Edward GrisPeerd, Imperial College London
14. Norman Loeb, NASA Langley
15. Ulrike Lohmann, ETH Zürich
16. Stefan Kinne, Max Planck Institute for Meteorology, Hamburg
17. Florent Malavelle, University of Exeter
18. Thorsten Mauritsen, Max Planck Institute for Meteorology, Hamburg
19. Daniel McCoy, University of Leeds
20. Johannes Müllmenstäd, University of Leipzig
21. Gunnar Myhre, CICERO Oslo
22. David Neubauer, ETH Zürich
23. Anna Possner, Carnegie Institution for Science, Stanford
24. Johannes Quaas, University of Leipzig
25. Maria Rugenstein, ETH Zürich
26. Yousuke Sato, University of Tokyo
27. Michael Schulz, met.no Oslo
28. Steven Schwartz, Brookhaven National Laboratory
29. Brian Soden, University of Miami
30. Odran Sourdeval, University of Leipzig
31. Bjorn Stevens, Max Planck Institute for Meteorology, Hamburg
32. Philip Stier, University of Oxford
33. Trude Storelvmo, Yale University
34. Velle Toll, University of Reading
35. Duncan Watson-Parris, University of Oxford
36. Dave Winker, NASA Langley