Berlin-Nairobi Exchange (BNE) – DOAS project

Meeting in Bremen, September 19 2005, 2-6pm

Venue:
IUP Bremen (Institute of Environmental Physics)

Participants:
Prof. John Burrows (Director of IUP)
Dr. Andreas Richter (IUP, responsible for DOAS group)
Sixten Fietkau (IUP, PhD student in DOAS group)
Jonas Laehnemann (BNE, former exchange student, coordinating DOAS project)
Jochen Ott (BNE, future exchange student)

Concerning the project of Jonas Laehnemann Andreas Richter and Sixten Fietkau acknowledged this as an extensive work. They promised to work out a formal recognition/opinion on the project together with Prof. Burrows. The scientific results are, however, not enough to allow for a publication, but could possibly be considered for the seminar at the IUP. They will also forward the project report to UNEP.

One of the main fields of discussion weres the new projects for Jochen Ott and Atreju Tauschinsky (another BNE exchange student interested in a DOAS project who is already in Kenya). Andreas Richter was not completely aware that two projects were needed, but expressed his willingness to draft enough proposals. As Sixten Fietkau, so far responsible for the Nairobi station, is just finishing his PhD and no funds are available to keep him longer at the IUP, Andreas Richter himself will be the main contact for the BNE and the projects of Jochen and Atreju in the near future. His time for the supervision will, however, be limited, as the current funding situation at the IUP has substantially reduced the staff of the DOAS unit. Jonas Laehneman therefore also volunteered to serve as a contact for Jochen and Atreju besides their local supervisors in Kenya (Dr. Angeyo and Prof Mulati respectively), as far as his so far collected knowledge concerning DOAS will allow.
One project idea close to Jonas' project would be to now look at NO2. Here the new Bremian retrieval for tropospheric ozone using the multi-axes geometry of the instrument could be used. The Nuclear Sciences department at the University of Nairobi could be possibly contacted for a few sample comparison in-situ measurements in Gigiri with their mobile measurement unit. Another possibility would lie in a comparison with satellite data. However, SCIAMACHY still has relatively large spatial resolution, making a comparison of this gas with a high spatial gradient to ground-based measurement rather unreliable. It is not sure if the data from the Dutch/American instrument OMI with far better resolution will be available soon enough for this project, although they should have been out just about now.
A completely different approach, with a stronger focus on physics, would be to do the actual absorption spectroscopy for an absorber not considered so far or water vapour. This project would be very interesting, **but** might not lead to as concrete results.
All these project ideas sound very promising. Andreas Richter will now specify these project ideas more detailed and forward them to Jochen and Atreju as proposals and for them to chose.

The IUP will also see if they find some of their students to be interested in going to Kenya for a year with the BNE in the future.

Afterwards the possibilities of building a collaboration between the IUP and the University of Nairobi (UoN) or the Jomo Kenyatta University of Agriculture and Technology (JKUAT) was discussed. In the supervisors of the DOAS projects for German exchange students at those universities, Dr. Angeyo and Prof. Mulati, the BNE has partners interested in a cooperation about

DOAS. Different possibilities of PhD or Masters students from Nairobi working on the topic to get Kenyan scientists involved were discussed. Andreas Richter, however, stressed that the current lack of funding and therefore staff in Bremen does not allow for the proper supervision of additional students. From their experience with Masters and PhD students from African countries Mr. Richter also sees a difficulty in the lack of computer and programming experience of those students compared with for example German students, as this is very essential for DOAS calculations and their resources currently do not allow to give the support necessary to bridge this shortcoming. Furthermore the future of the complete ground-based network is currently at stake with the station in Greenland having been removed recently. Nairobi, however, will probably be secured for the next three years through a grant of UNEP which will at least cater for a yearly visit by Bremian scientists/technicians (with Sixten leaving a technician will be responsible for the upkeep of the Nairobi station) and other maintenance costs. Given this situation Mr. Richter does not see it feasible to start the application process for a DFG grant for a cooperation at this moment. He proposed to postpone a discussion on this topic until things are more clear and consolidated in Bremen.

Prof. Burrows joined the meeting for a short while and gave his appreciation of the cooperation so far and the project of Jonas Laehnemann. He stressed the importance of such an academic exchange with a country like Kenya and his hope that the cooperation would continue, wishing Jochen Ott good luck for his project. He also said that the death of Prof. Hamprecht was a great loss for the exchange and that he hoped the good work would continue.

Afterwards Sixten Fietkau showed the local DOAS instrument in Bremen on the roof of the IUP, as a short practical introduction for Jochen Ott.
It was proposed that Jochen Ott and Atreju Tauschinsky will visit the station in Nairobi with their supervisors Dr. Angeyo (UoN) and Prof. Mulati (JKUAT), probably in late October. For this they need to contact Ruth Batten or Meg Seki at the Ozone Secretariat at UNEP (Jonas has the contacts).