Dobson Training Course, Amberd, Armenia, 28/09- 4/10/2015

After the passing away of Davit Melkonyan, there was a need for training of the staff at the Amberd Dobson station in Armenia. It was agreed that Dr. Martin Stanek, a Dobson instrument expert from the Czech Hydrometeorological Institute (CHMI) should go to Amberd, check their Dobson instrument and give training to the staff.
The training course took place from 28 September to 4 October 2015. Below follows the mission report from Dr. Stanek.
There was a good weather for observations during the days Dr. Stanek spent in Amberd. The SL and Hg tests were repeated every day. Together with the local staff, Dr. Stanek carried out a small servicing of the Dobson instrument, cleaned the sun director and ground quartz plate, and they changed the 9V battery in the thermometer.

The Q-Table was updated based on the Hg tests immediately after Dr. Stanek's arrival. Unfortunately the original table for Hohenpeissenberg had been used since the last calibration even if the proper and updated one was available there at the station. The correction for the new Q-Table in degrees was -0.96 for the Hg line at 312.9 nm. This result had not changed noticeably since the last calibration in 2010 and this confirms a good wavelength stability of this Dobson instrument. We could not do the symmetry test, because the short/long selector rod was bent and there was no mechanical workshop available on the site to fix that.

It is recommend to replace the microammeter during the next calibration at MOHp and install a small digital clock (radio controlled if possible) on the Dobson trolley. The microammeter needle does not return exactly back to its zero position sometimes. Observers are recording time from their mobile phones and these are not necessarily synchronized with the GSM mobile telephone network.

The Dobson trolley had very old wheels. Some new wheels with more soft and wider tires would be better to use.

There are three observers to do observations with this Dobson, only one of them, Hovik Voscanyan, knows how to do SL and Hg tests regularly every month. None of them can speak English, but in any case it would be very useful to invite one observer plus probably one other person responsible for the Dobson and with the language knowledge to Hohenpeissenberg for the Dobson calibration in 2016.

Dr. Stanek installed and introduced a new version of the Dobson software during his stay in Yerevan. The database was converted from the old to the new version. The old version is still available there and can be used if necessary. The old Dobson software was written for the MSDOS operating system and some emulator like DosBox must be

used to run it on new 64bit systems. That is why the new version is recommend for future use.

The R-N tables used in the software were not updated from at least the last calibration. This can produce about 3% lower ozone. Dr. Stanek also recalculated data for two years back and compared all results from 2015 with OMI satellite data to confirm this offset.

Most of the problems were fixed during Dr. Stanek’s stay in Armenia and it is expected that there will be excellent results of total ozone from Dobson instrument #044 in the future.