

### **IIIb. CIs, Instruments, and Deployments**

**(Listed according to instrument type)**

#### **Dobson Spectrophotometers/Brewer Spectrometers**

E. Kyrö (FMI)	Sodankylä, Finland (67.37°N, 26.65°E) – Brewer observations beginning May 1988.
M. Allaart (KNMI)	DeBilt, The Netherlands (52.10°N, 5.18°E) – Brewer No. 100.
H. De Backer (RMIB)	Uccle, Belgium (50.8°N, 4.35°E) – Brewer and Dobson measurements. Dobson No. 40 will be stopped, refurbished, and relocated to Reunion Island.
U. Köhler (DWD)	Hohenpeissenberg, Germany (47.80°N, 11.02°E) – Daily Dobson observations beginning May 1967; since 1986 only on work days. Daily Brewer observations since January 1984.
R. Stübi (MeteoSwiss) P. Viatte (MeteoSwiss)	Arosa, Switzerland (46.78°N, 9.68°E) – Daily Dobson observations beginning July 1926.
R. Evans (GMD) S. J. Oltmans (GMD)	Boulder, CO, USA (39.99°N, 105.26°W) – Daily Dobson observations beginning September 1966.
F. J. Schmidlin (WFF) R. Evans (GMD)	Wallops Island, VA (37.94°N, 75.46°W) – Daily Dobson observations beginning June 1967.
A. Redondas (INM) E. Cuevas (INM)	Izaña (Tenerife), Spain (28.3°N, 16.5°W) – Brewer measurements initiated in May 1991 using a Mark II single monochromator. Replaced with a double Brewer in July 1998.
M. Allaart (KNMI) C. Becker (Met. Service, Paramaribo)	Paramaribo, Surinam (5.75°N, 55.2°W) - Continuous observations of total ozone and the UV spectrum, complemented by Umkehr zenith sky observations at dusk and dawn, have been made using a Brewer MkIII since April 1999.
R. Evans (GMD) S. J. Oltmans (GMD)	Cape Matatula, American Samoa (14.25°S, 170.56°W) – Daily Dobson observations beginning December 1975.

*Shaded sites and instruments are inactive*

**FTIR**

U. Raffalski (IRF) T. Blumenstock (IMK) Y. Matsumi (STEL)	Bruker 120HR (0.002 cm <sup>-1</sup> resolution) operating at Kiruna, Sweden (67.84°N, 20.41°E); fitted with four detectors for solar and lunar measurements. Intercompared with the NPL instrument in March 1998.
J. Hannigan (NCAR) M. Coffey (NCAR) W. Mankin (NCAR)	Campaign data from Søndre Stromfjord (67.02°N, 50.72°W) have been archived from October 1994 to March 1995.
J. Mellqvist (Chalmers) B. Galle (Chalmers) A. Strandberg (Chalmers)	Bruker 120M (0.0035 cm <sup>-1</sup> resolution) operating at the Solar Observatory (Harestua, Norway: 60.2°N, 10.8°E). Measurements conducted throughout the year, but mainly during winter. Intercompared with the NPL instrument in September/October 1994. Data available since late 1994. Current retrieval algorithm is SFIT2 v.3.81.
J. Notholt (U. Bremen)	Bruker 120HR operating at Bremen, Germany (53.1°N, 8.8°E) through 2003. Retrievals made with Bruker 125HR since 2004. Maximum resolution 0.0028 cm <sup>-1</sup> . Typically make one or two observations per week. Retrieval with SFIT2 and GFIT. The flat surroundings are conducive to satellite validation. The FTIR observations are complemented by microwave and DOAS measurements.
T. Nagahama (STEL)	Bruker 120HR (0.0028 cm <sup>-1</sup> resolution) operating at the Moshiri Observatory, Japan (44.4°N, 142.3°E) since April 1996.
K. Strong (U. Toronto)	Bomem DA8 (0.004 cm <sup>-1</sup> resolution) installed at Toronto (43.66°N, 79.40°W) October 2001; routine measurements since May 2002.
T. Nagahama (STEL)	Bruker 120M (0.004 cm <sup>-1</sup> resolution) installed at the Rikubetsu Observatory, Japan (43.5°N, 143.8°E) in May 1995. Tested at Toyokawa, Japan (35°N, 137°E) from December 1994 to April 1995.

*Shaded sites and instruments are inactive*

- G. C. Toon (JPL) Operation of a home-built interferometer (JPL MkIV with 0.006  $\text{cm}^{-1}$  resolution) on Mt. Barcroft, CA (37.6°N, 118.2°W) beginning in October 1998. Interim deployment at Table Mountain Facility (34.4°N, 117.7°W) from January to August 1998. A dataset from JPL (Pasadena, CA: 34.20°N, 118.17°W) also exists dating back to 1988. Database from POLARIS campaign (summer 1997) also archived for Fairbanks, AK (64.82°N, 147.87°W). Archived database exists from SOLVE/THESEO campaign (winter 1999/2000) from Esrange, Sweden (67.9°N, 21.1°E). Additional data obtained from Esrange from January to April 2003. Balloon-borne data for this instrument also exist for mid- and high-latitudes.
- C. Rinsland (LaRC) Continuous record of infrared solar spectra (dating back to 1976) using the FTS (0.005  $\text{cm}^{-1}$  resolution) in the McMath Pierce telescope on Kitt Peak, AZ (31.9°N, 111.6°W).
- N. Jones (U. Wollongong)  
D. Griffith  
(U. Wollongong) Bomem DA8 (0.004  $\text{cm}^{-1}$  resolution) operated at the University of Wollongong (34.45°S, 150.88°E) since December 1994. Earlier measurements (since December 1994) were made using a Bomem DA3 (0.02  $\text{cm}^{-1}$  resolution).
- T. Blumenstock (IMK) Measurements performed at Izaña (Tenerife), Spain (28.3°N, 16.5°W) using a Bruker 120M (0.0035  $\text{cm}^{-1}$  resolution) since February 1999. Replaced with a Bruker 120HR (0.0035  $\text{cm}^{-1}$  resolution) in 2005.
- M. De Mazière  
(IASB-BIRA) Bruker 120M operating at Reunion Island, France (20.8°S, 55.5°E) on a campaign basis since 2002. Plan to install this instrument at the St. Denis campus in 2008 for quasi-permanent operation. Will install Bruker 125HR when the new NDACC building at the mountain site is complete, perhaps in 2010 or 2011.

*Shaded sites and instruments are inactive*

**Lidar (Aerosol)**

H. Fast (MSC)	(Aerosol and Temperature) Toronto, Canada (43.66°N, 79.40°W) – Year-round operation of Rayleigh system from late 1989 through April 2000.
T. J. McGee (GSFC) G. Sumnicht (SSAI) L. Twigg (SSAI)	(Aerosol, Temperature, and Water Vapor) – The Aerosol and Temperature Lidar (AT Lidar) has been rebuilt, and now includes water vapor to >10 km, temperature in the troposphere using rotational Raman backscatter, stratospheric temperature up to ~80 km, and aerosol parameters using elastic and Raman backscatter up to ~35 km. This instrument has participated in campaigns at Table Mountain Facility (34.4°N, 117.7°W), and Mauna Loa (19.54°N, 155.58°W), and is being prepared for campaigns at Beltsville, MD (39.06°N, 76.74°W) and Table Mountain Facility in the summer/fall 2006,
C. H. Lee (ILE)	(Aerosol) Permanent operation of 1064/532 nm system at Suwon, Korea (37.2°N, 127.6°E) since November 1995. Upgraded to 1064/532/355-nm system in October 1998. Currently accepted for retrievals from 1 to 30 km (532 nm) and 10 to 30 km (355 nm); possible extension of acceptable range being evaluated. Also retrieves water vapor (1 to 10 km).
I. S. McDermid (JPL) T. Leblanc (JPL) T. D. Walsh (JPL)	(Aerosol) Table Mountain Facility (34.4°N, 117.7°W) – Aerosol measurements at four wavelengths from July 1991 to 1998.
I. S. McDermid (JPL) T. Leblanc (JPL) T. D. Walsh (JPL)	(Aerosol, Ozone, and Temperature) Table Mountain Facility (34.4°N, 117.7°W) – Aerosol, ozone, and temperature database extends back to February 1988. Instrument has been used for testing, research, and intercomparisons.
T. Portafaix (U. de la Réunion) C. David (SA-IPSL)	(Aerosol) Measurements at Reunion Island (20.8°S, 55.5°E) since April 1994 using Nd:YAG system similar to that at OHP. Raman and polarization channels were added in November 1997. Operations temporarily suspended at present.

*Shaded sites and instruments are inactive*

**Lidar (Ozone)**

- G. Hansen (NILU)                      Andøya, Norway ALOMAR Observatory (69.3°N, 16.0°E) – DIAL system; operational since December 1994.
- H. Claude (DWD)  
W. Steinbrecht (DWD)                      Hohenpeissenberg, Germany (47.80°N, 11.02°E) – Ozone and temperature measurements from 15 to 50 km and 30 to 60 km, respectively, several times per month since October 1987.
- H. Fast (MSC)**                              Toronto, Canada (43.66°N, 79.40°W) – DIAL system with year-round nighttime measurements from late 1990 through April 2000 and during the 2001/2002 winter; also retrieved aerosol and temperature profiles.
- C. H. Lee (ILE)                              Permanent operation at Suwon, Korea (37.2°N, 127.6°E) since September 1992. Also retrieves aerosol backscattering ratio. Currently accepted for retrievals from 10 to 35 km. Upgraded for improved retrievals from 10 to 50 km in July 1998 (results being evaluated).
- H. Nakane (NIES)                              Permanent operation at Tsukuba, Japan (36.05°N, 140.13°E) since mid-1988. Also retrieves temperature and aerosols.
- I. S. McDermid (JPL)  
T. Leblanc (JPL)  
T. D. Walsh (JPL)                              (Aerosol, Ozone, and Temperature) Table Mountain Facility (34.4°N, 117.7°W) – Aerosol, ozone, and temperature database extends back to February 1988. Instrument has been used for testing, research, and intercomparisons.
- I. S. McDermid (JPL)  
T. Leblanc (JPL)  
T. D. Walsh (JPL)                              Table Mountain Facility (34.4°N, 117°W) - Tropospheric ozone system operational since November 1999.
- J. L. Baray  
(U. de la Réunion)  
S. Godin-Beekmann  
(CNRS)    Stratospheric ozone DIAL system installed in May 2000. at Reunion Island (20.8°S, 55.5°E). Year-round ozone profiles from 15 to 45 km. Instrument encountered problems from 2002 to 2005.

*Shaded sites and instruments are inactive*

**Lidar (Temperature)**

A. Hauchecorne (CNRS) Andøya, Norway ALOMAR Observatory (69.3°N, 16.0°E) – Rayleigh/Mie/Raman system operated since 1995. Data archived for 1995 and 1996..

H. Fast (MSC) (Aerosol and Temperature) Toronto, Canada (43.66°N, 79.40°W) – Year-round operation of Rayleigh system from late 1989 through April 2000.

H. Claude (DWD)  
W. Steinbrecht (DWD) Hohenpeissenberg, Germany (47.80°N, 11.02°E) – Ozone and temperature measurements from 15 to 50 km and 30 to 60 km, respectively, several times per month since October 1987.

T. J. McGee (GSFC)  
G. Sumnicht (SSAI)  
L. Twigg (SSAI) (Aerosol, Temperature, and Water Vapor) – See detailed information listed under ‘Lidar (Aerosol).’

I. S. McDermid (JPL)  
T. Leblanc (JPL)  
T. D. Walsh (JPL) (Aerosol, Ozone, and Temperature) Table Mountain Facility (34.4°N, 117.7°W) – Aerosol, ozone, and temperature database extends back to February 1988. Instrument has been used for testing, research, and intercomparisons.

H. Bencherif  
(U. de la Réunion)  
Ph. Keckhut (SA-IPSL) (Temperature) Measurements at Reunion Island (20.8°S, 55.5°E) since April 1994 using Nd:YAG system similar to that at OHP. Raman and polarization channels were added in November 1997.

**Microwave (CIO)**

R. de Zafra (SUNY) See entry under “Microwave (Ozone).” Deployments for CIO include Thule (76.53°N, 68.74°W) for the winters of 1992 and 1993 and McMurdo (77.85°S, 166.63°E) for the austral springs of 1992 to 1995. N<sub>2</sub>O measurements are available at Thule for the winter of 1992 and at McMurdo for the austral spring of 1994.

R. de Zafra (SUNY) Antarctic Station (McMurdo: 77.85°S, 166.63°E) – Measurements (using the SIS receiver/spectrometer) were made during the austral springs of 1997 and 1998 for an intercomparison with the Millitech instrument at Scott Base (see entries in Sections Ia and Ib).

*Shaded sites and instruments are inactive*

**Microwave (Ozone)**

- R. de Zafra (SUNY) Two mm-wave spectrometers (a rebuild of the original SUNY instrument and a new unit) have operated in a campaign mode since 1990. Deployments for ozone include South Pole Station (90.00°S) for 11-month periods in 1993 and 1995. Also has retrieved N<sub>2</sub>O, HNO<sub>3</sub>, and NO<sub>2</sub>.
- R. de Zafra (SUNY)  
G. Muscari (SUNY) Conducted winter deployments at Thule (76.53°N, 68.74°W) in 2002 and 2003, measuring ozone (up to about 60 to 70 km) and CO. Each species was measured once daily for about five weeks, weather permitting. HNO<sub>3</sub> and N<sub>2</sub>O are available from 2002.
- A. Parrish (Millitech & U. MA)  
I. S. Boyd (NIWA)  
B. J. Connor (NIWA) Table Mountain Facility (34.4°N, 117.7°W) – Deployed from August 1989 to June 1992 prior to permanent siting at Lauder (see entries in Section Ia and Ib).

**Microwave (Water Vapor)**

- P. Forkman (OSO)  
P. Eriksson (OSO)  
G. Elgered (OSO)  
D. Murtagh (OSO)  
A. Winnberg (OSO) Onsala, Sweden (57.4°N, 11.93°E) – Data from 22-GHz radiometer operating at Onsala Space Observatory since 2002.
- G. Nedoluha (NRL)  
R. M. Gomez (NRL)  
R. Bevilacqua (NRL) Table Mountain Facility (34.4°N, 117.7°W) – Instrument #1 (WVMS1) deployed from January to October 1992 and May to November 1993; WVMS3 deployed from September 1995 until March 1996 when it was moved to Mauna Loa (19.54°N, 155.58°W); WVMS2 deployed September 1993 to November 1997 and from November 2003 to present.

*Shaded sites and instruments are inactive*

**Sondes (Aerosol)**

H. Fast (MSC) J. Rosen (U. Wyoming)	Alert, Canada (82.50°N, 62.33°W) – Backscatter measurements of aerosol profiles available for the winter from 1989 to 1993.
J. Rosen (U. Wyoming) V. Khattatov (CAO)	Heiss Island, Russia (80.6°N, 58.1°E) - Backscatter measurements of aerosol profiles available for the winter from 1989 to 1992.
H. Fast (MSC) J. Rosen (U. Wyoming)	Resolute, Canada (74.7°N, 95.0°W) – Backscatter measurements of aerosol profiles available for October 1991.
N. Larsen (DMI) J. Rosen (U. Wyoming)	Scoresbysund, Greenland (70.48°N, 21.97°W) - Backscatter measurements of aerosol profiles available for January 1994 – February 1996.
N. Larsen (DMI) J. Rosen (U. Wyoming)	Kiruna, Sweden (67.84°N, 20.41°E) - Backscatter measurements of aerosol profiles available for the winter from 1991 to 2002.
J. Rosen (U. Wyoming) V. Yushkov (CAO)	Salekhard, Russia (67.5°N, 67.5°E) - Backscatter measurements of aerosol profiles available for March 1999 and January 2000.
E. Kyrö (FMI) J. Rosen (U. Wyoming)	Sodankylä, Finland (67.37°N, 26.65°E) - Backscatter measurements of aerosol profiles available for the winter since 1994.
J. Rosen (U. Wyoming) V. Khattatov (CAO)	Arkhangel'sk, Russia (64.6°N, 40.5°E) - Backscatter measurements of aerosol profiles available for November – December 1993.
J. Rosen (U. Wyoming) V. Yushkov (CAO)	Yakutsk, Russia (62.0°N, 130.9°E) - Backscatter measurements of aerosol profiles available for the winter since 1995.
J. Rosen (U. Wyoming)	Laramie, WY, USA (41.32°N, 105.67°W) - Backscatter measurements of aerosol profiles available for May 1989 – September 2000.
J. Rosen (U. Wyoming)	Natal, Brazil (5.9°S, 35.2°W) - Backscatter measurements of aerosol profiles available on a campaign basis for November 1995 to November 2003.

*Shaded sites and instruments are inactive*

**Sondes (Ozone)**

H. Fast (MSC)	Alert, Canada (82.50°N, 62.33°W) – ECC sondes launched weekly since 1988.
S. B. Andersen (DMI)	Scoresbysund, Greenland (70.48°N, 21.97°W) – ECC sondes launched weekly since 1989.
V. Dorokhov (CAO)	Salekhard, Russia (67.5°N, 67.5°E) - Two launches per week from January to March since 1998.
E. Kyrö (FMI)	Sodankylä, Finland (67.37°N, 26.65°E) - Year round soundings approximately once per week with additional launches during winter and campaigns.
V. Dorokhov (CAO)	Yakutsk, Russia (62.0°N, 130.9°E) - Year round soundings approximately once per week with additional launches during winter and campaigns.
M. Allaart (KNMI)	DeBilt, The Netherlands (52.10°N, 5.18°E) – Database extends back to 1992.
Z. Litynska (IMWM) B. Kois (IMWM) A. Jaczewski (IMWM)	Legionowo, Poland (52.40°N, 20.97°E) - ECC sondes launched weekly since June 1993. Additional sondes have been launched in concert with the MATCH campaigns and the Envisat/SCIAMACHY validation program. Database extends back to 1979 with OSE sondes. The station's WMO number is 12374.
G. Vaughan (U. Manchester)	Aberystwyth, UK (52.0°N, 4.0°W) - Soundings on a campaign basis since 1991. Activity has been completed.
H. De Backer (RMIB)	Uccle, Belgium (50.8°N, 4.35°E) - Brewer-Mast sondes launched three times per week from 1969 to March 1997. Z-ECC sondes used since April 1997.
P. Skrivankova (CHMI)	Prague, Czech Republic (50.01°N, 14.45°E) - Observations with ECC ozonesondes three times per week beginning January 1992. Observations with Brewer- Mast ozonesondes during 1979-1991. Observations with NSS14A radioactivity sensor once every four months since August 1994.

*Shaded sites and instruments are inactive*

H. Claude (DWD)	Hohenpeissenberg, Germany (47.80°N, 11.02°E) – Observations with Brewer-Mast ozonesondes three times per week since 1967.
B. Johnson (GMD)	Weekly ECC sondes have been launched from Boulder, CO (39.99°N, 105.26°W) since June 1991.
F. J. Schmidlin (WFF)	Weekly ECC sondes have been launched from Wallops Island, VA (37.94°N, 75.46°W) since July 1967.
A. Redondas (INM) E. Cuevas (INM)	Weekly ECC sondes have been launched from Izaña (Tenerife), Spain (28.3°N, 16.5°W) since November 1992 for profile measurements from 0 to 34 km. More frequent launches have occurred during specific campaigns.
M. Allaart (KNMI) C. Becker (Met. Service, Paramaribo)	Paramaribo, Surinam (5.75°N, 55.2°W) - Weekly balloon sondes launched year-round since September 1992, measuring profiles of ozone (ECC-6a cell), temperature, pressure, humidity, and wind (using GPS).
F. J. Schmidlin (WFF)	Weekly ECC sondes have been launched from Natal, Brazil (5.9°S, 35.2°W) since July 1967.
B. Johnson (GMD)	Weekly ECC sondes have been launched from Pago Pago (Cape Matatula), American Samoa (14.25°S, 170.56°W) since August 1995.
F. Posny (U. de la Réunion)	Measurements at Reunion Island (20.8°S, 55.5°E) since September 1992. The launch frequency has been once per week since 1999. Replaced receiving equipment and acquisition software for NOAA GMD system in October 2003.
G. König-Lango (AWI) O. Schrems (AWI)	Vaisala ECC-6a sondes launched weekly at Neumayer Station, Antarctica (70.62°S, 8.37°E) since 1992. Launch frequency increased during Austral spring.

## *Shaded sites and instruments are inactive*

### **Spectral UV**

- C. Brogniez (U. de Lille) Measurements of UV spectroradiometer irradiance at Villeneuve d'Ascq, France (50.65°N, 3.08°E) with a double monochromator, initiated in May 1997, and continuous since then with some interruptions due to instrument problems. The instrument took part in the SUSPEN intercomparison campaign (July 1997), and the instrument validation project QASUME (September 2004).
- D. J. Hofmann (GMD)  
S. J. Oltmans (GMD)  
M. S. O'Neill (GMD)  
R. L. McKenzie (NIWA) Measurements of spectral UV irradiance at Boulder, CO (39.99°N, 1015.26°W) since June 1998. Three different NIWA double monochromators have been used. Three different sites have been used in and around Boulder. The present instrument has been in use since August 2001, and was included in the 2003 Table Mountain UV Spectroradiometer Intercomparison.

### **UV/Visible Spectrometers**

- F. Goutail (CNRS)  
S. B. Andersen (DMI) SAOZ system operated at Scoresbysund, Greenland (70.48°N, 21.97°W) since 1990.
- P. V. Johnston (NIWA)  
W. A. Matthews (NIWA) Operating at Kiruna, Sweden (67.84°N, 20.41°E) since 1991 for NO<sub>2</sub> and ozone; extended to BrO and OCIO in 1997.
- F. Goutail (CNRS)  
E. Kyrö (FMI) SAOZ system operated at Sodankylä, Finland (67.37°N, 26.65°E) since February 1990.
- F. Goutail (CNRS)  
V. Dorokhov (CAO) SAOZ system operated at Zhigansk, Russia (67.2°N, 123.4°E) since December 1991.
- M. Van Roozendael  
(IASB-BIRA) Two DOAS systems operated at Harestua, Norway (60.2°N, 10.8°E) since January 1994 (one for NO<sub>2</sub> and ozone, the other for BrO and OCIO).
- A. Gruzdev (IAP)  
A. Elokhov (IAP) Zvenigorod, Russia (55.7°N, 36.8°E); morning and evening NO<sub>2</sub> data since 1990. Hosted intercomparison in September 1997.

*Shaded sites and instruments are inactive*

- G. Vaughan  
(U. Manchester) SAOZ system operated at Aberystwyth, UK (52.0°N, 4.0°W) since 1991. Also has made measurements at Lerwick, UK (60.1°N, 1.1°E) and Aberdeen, UK (57°N, 2°W) during the EASOE (November 1991 to April 1992) and SESAME (February to April 1994) campaigns, respectively.
- Y. Matsumi (STEL)  
M. Koike (U. Tokyo)  
Y. Kondo (U. Tokyo)  
P. V. Johnston (NIWA) Measurements of NO<sub>2</sub> and ozone have been made at the Moshiri Observatory (44.4°N, 142.3°E) since 1991. Measurements also were made at Rikubetsu Observatory (43.5°N, 143.8°E) from March 1994 to October 1997 and at Kiso Observatory (35.8°N, 137.6°E) from 1992 to 1996.
- V. Sinyakov (IEM)  
V. Semyonov (KSNU) Issyk-Kul, Russia (42.6°N, 77.0°E); morning and evening NO<sub>2</sub> measurements. Participated in 1997 intercomparison at Zvenigorod.
- M. Gil (INTA) Measurements conducted at Izaña (Tenerife), Spain (28.3°N, 16.5°W) since December 1998; continues the NO<sub>2</sub> data set started in 1993 with a scanning spectrometer (that is still operating). Instrument certified for NO<sub>2</sub> measurements during the 1996 OHP intercomparison. Also retrieve column abundances of ozone, H<sub>2</sub>O, and O<sub>4</sub>.
- F. Goutail (CNRS) P. V. Johnston (NIWA) SAOZ system operated at Tarawa, Kiribati Republic (1.4°N, 172.9°E) since July 1992. Operations ceased in 1999.
- P. V. Johnston (NIWA) NIWA system for NO<sub>2</sub> and ozone operating at Tarawa, Kiribati Republic (1.4°N, 172.9°E) since mid-1995. Measurements ceased in May 1999 due to a computer failure; future operations are uncertain.
- Y. Kondo (U. Tokyo) W. A. Matthews (NIWA) NIWA system for NO<sub>2</sub> and ozone operating at Ciater/Bandung, Indonesia (6.4°S, 107.4°E) since August 1994.
- F. Goutail (CNRS)  
T. Portafaix  
(U. de la Réunion) SAOZ system operating at Reunion Island (20.8°S, 55.5°E) since August 1993.

*Shaded sites and instruments are inactive*

F. Goutail (CNRS) G. Held (UNESP)	SAOZ system for NO <sub>2</sub> and ozone operating at Bauru, Brazil (22.3°S, 49.0°W) since November 1995.
F. Goutail (CNRS)	SAOZ system for NO <sub>2</sub> and ozone operating at Kerguelen Island (49.3°S, 70.3°E) since December 1995.
S. Wood (NIWA)	NIWA system for NO <sub>2</sub> and ozone operated at Campbell Island, NZ (53.4°S, 169.0°E) from 1984 through September 1995 when the system was moved to Macquarie Island (54.50°S, 158.95°E). The investigators have been unable to archive the data due to insufficient resources, but hope to do so in the future.
K. Kreher (NIWA) P. V. Johnston (NIWA)	NIWA system for NO <sub>2</sub> and ozone moved to Macquarie Island, Australia (54.50°S, 158.95°E) from Campbell Island, NZ (53.4°S, 169.0°E) in September 1995.
H. K. Roscoe (BAS)	SAOZ system operated at Faraday (UK Antarctic Station: 65.25°S, 64.27°W) from January 1990 until the station closed in December 1995. System operating at Rothera (67.57°S, 68.12°W) since January 1996.
Y. Kondo (Tokyo U.) W. A. Matthews (NIWA)	Measurements of NO <sub>2</sub> and ozone being made at Syowa Base, Antarctica (69.01°S, 39.59°E) since 1990.
B. Dix (U. Heidelberg) U. Friess (U. Heidelberg) U. Platt (U. Heidelberg)	Dual-channel DOAS spectrograph installed at Neumayer Station, Antarctica (70.62°S, 8.37°E) in January 1999 for measuring ozone, NO <sub>2</sub> , OClO, and BrO.