Instruments ( Total Ozone and Umkehr Observation Data at Syowa Station )

| YEAR | Instrument | Observation method |
|---|---|---|
| 1961 | Shimadzu Dobson Spectrophotometer #5702 | AD Direct sun |
| 1962 | | |
| 1963 | | |
| 1964 | | |
| 1965 | | |
| 1966 | Shimadzu Dobson Spectrophotometer #5702 | AD Direct sun, Zenith sky |
| 1967 | Shimadzu Dobson Spectrophotometer #5702 | AD Direct sun, Zenith sky |
| 1968 | Shimadzu Dobson Spectrophotometer #5702 | AD Direct sun, Zenith sky |
| 1969 | Shimadzu Dobson Spectrophotometer #5702 | AD Direct sun, Zenith sky / AD Focused moon |
| 1970 | Shimadzu Dobson Spectrophotometer #5702 | AD Direct sun, Zenith sky |
| 1971 | Shimadzu Dobson Spectrophotometer #5702 | AD Direct sun, Zenith sky |
| 1972 | Shimadzu Dobson Spectrophotometer #5702 | AD Direct sun, Zenith sky |
| 1973 | | |
| 1974 | Shimadzu Dobson Spectrophotometer #5706 | AD Direct sun, Zenith sky |
| 1975 | Shimadzu Dobson Spectrophotometer #5706 | AD Direct sun, Zenith sky |
| 1976 | Shimadzu Dobson Spectrophotometer #5706 | AD Direct sun, Zenith sky |
| 1977 | Shimadzu Dobson Spectrophotometer #5706 (to 2nd February)<br>Beck Dobson Spectrophotometer #119 (from 3rd February) | AD Direct sun, Zenith sky |
| 1978 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky |
| 1979 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky |
| 1980 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky |
| 1981 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky |
| 1982 | Beck Dobson Spectrophotometer #119 (to 31st January)<br>Beck Dobson Spectrophotometer #122 (from 1st February) | AD Direct sun, Zenith sky / AD Focused moon |
| 1983 | Beck Dobson Spectrophotometer #122 | AD Direct sun, Zenith sky / AD Focused moon |
| 1984 | Beck Dobson Spectrophotometer #122 | AD Direct sun, Zenith sky / AD Focused moon |
| 1985 | Beck Dobson Spectrophotometer #122 | AD Direct sun, Zenith sky / AD Focused moon |
| 1986 | Beck Dobson Spectrophotometer #122 (to 26th January)<br>Beck Dobson Spectrophotometer #119 (from 27th January) | AD Direct sun, Zenith sky / AD Focused moon |
| 1987 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun / AD Focused moon |
| 1988 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun / AD Focused moon |
| 1989 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun / AD Focused moon |
| 1990 | Beck Dobson Spectrophotometer #119 (to 31st January)<br>Beck Dobson Spectrophotometer #122 (from 1st February) | AD Direct sun, Zenith sky / CD Direct sun / AD Focused moon |
| 1991 | Beck Dobson Spectrophotometer #122 | AD Direct sun, Zenith sky / CD Direct sun / AD Focused moon |
| 1992 | Beck Dobson Spectrophotometer #122 | AD Direct sun, Zenith sky / CD Direct sun / AD Focused moon |
| 1993 | Beck Dobson Spectrophotometer #122 | AD Direct sun, Zenith sky / CD Direct sun / AD Focused moon |
| 1994 | Beck Dobson Spectrophotometer #122 (to 31st January)<br>Beck Dobson Spectrophotometer #119 (from 1st February) | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 1995 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 1996 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 1997 | Beck Dobson Spectrophotometer #119 (to 31st January)<br>Beck Dobson Spectrophotometer #122 (from 1st February) | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 1998 | Beck Dobson Spectrophotometer #122 (to 31st January)<br>Beck Dobson Spectrophotometer #119 (from 1st February) | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 1999 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2000 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2001 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2002 | Beck Dobson Spectrophotometer #119 (to 31st January)<br>Beck Dobson Spectrophotometer #122 (from 1st February) | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2003 | Beck Dobson Spectrophotometer #122 (to 31st January)<br>Beck Dobson Spectrophotometer #119 (from 1st February) | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2004 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2005 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2006 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2007 | Beck Dobson Spectrophotometer #119 (to 31st January)<br>Beck Dobson Spectrophotometer #122 (from 1st February) | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2008 | Beck Dobson Spectrophotometer #122 (to 31st January)<br>Beck Dobson Spectrophotometer #119 (from 1st February) | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2009 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2010 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2011 | Beck Dobson Spectrophotometer #119 (to 31st January)<br>Beck Dobson Spectrophotometer #122 (from 1st February) | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2012 | Beck Dobson Spectrophotometer #122 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2013 | Beck Dobson Spectrophotometer #122 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2014 | Beck Dobson Spectrophotometer #122 (to 14th January)<br>Beck Dobson Spectrophotometer #119 (from 15th January) | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2015 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2016 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2017 | Beck Dobson Spectrophotometer #119 (to 13th January)<br>Beck Dobson Spectrophotometer #122 (from 14th January) | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2018 | Beck Dobson Spectrophotometer #122 (to 31st January)<br>Beck Dobson Spectrophotometer #119 (from 1st February) | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2019 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2020 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2021 | Beck Dobson Spectrophotometer #119 | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky / AD Focused moon |
| 2022 | Beck Dobson Spectrophotometer #119 (to 31st January) | AD Direct sun, Zenith sky / CD Direct sun, Zenith sky |
| | Kipp & Zonen Brewer MKIII Spectrophotometer #252 (from 1st February) | Direct sun, Zenith sky, Focused Sun, Focused moon |