SABER L2 netCDF file contents

This document describes the contents of the SABER L2 files. The table that follows lists each variable contained in the netCDF file along with its type, dimensions, units, long name, and missing value. The variables that are dimensioned use the variables: Altitude = 400, Event = UNLIMITED, and Vector =3. The Event dimension will depend on the number of events in the netCDF file. Vector is used only for a lunar vector variable.

The variables that have the _top in the name are for the top half of the altitude range (extending to about 285km). The same variable without the _top extension are for the bottom half of the altitude range (roughly 15km to 155km).

Note that there are several versions of Level2 data, the column to the far right indicates for which versions (starting with 1.06) a particular variable is included.

Level 2 netcdf variables

Variable(dimensions)/type*	units	Long name	Miss. value	Version**
event(event)/s		Event Number for Current File		06 07 20
date(event)/i	yyyyddd	Date [yyyyddd]	-999	06 07 20
mode(event)/s		0=Down 1=Up	-999	06 07 20
tpDN(event)/s		0=Day 1=Night 2=Twilight	-999	06 07 20
tpAD(event)/s		0=Ascending 1=Descending	-999	06 07 20
moonSepAngle(event)/f	degrees	Angle between moon and LOS	-999	06 07 20
tpaltmoonSepAngle(event)/f	km	Tpaltitude used for moonSepAngle	-999	06 07 20
solAP(event)/f		Solar Ap Index	-999	06 07 20
solKP(event)/f		Solar Kp Index	-999	06 07 20
solf10p7Daily(event)/f	10^{-22} W/m2/Hz	F10.7 Flux (Daily	-999	06 07 20
***solF10p781dAvg(event)/f	10^{-22} W/m2/Hz	F10.7 Flux (81 day Average)	-999	06 07 20
solSpotNo(event)/s		Zurich Sunspot Number	-999	06 07 20
scSolarZen(event)/f	degrees	Sc Solar-Zenith Angle	-999	06 07 20
earth_sun(event)/f	km	Earth-Sun Distance	-999	06 07 20
L1_altoff(event)/f	km	Altitude Offset from Level1	-999	-- -- 20
Iaurora(event)/s		Aurora Flag (1=TRUE, 0=FALSE)	-999	06 07 20
time(event,altitude)/i	msec	Msec Since Midnight	-999	06 07 20
sclatitude(event, altitude)/f	degrees	Spacecraft Latitude	-999	06 07 20
sclongitude(event, altitude)/f	degrees	Spacecraft Longitude	-999	06 07 20
scaltitude(event, altitude)/f	km	Spacecraft Altitude	-999	06 07 20
tpaltitude(event, altitude)/f	km	Tangent-Point Altitude	-999	06 07 20
tplatitude(event, altitude)/f	degrees	Tangent-Point Latitude	-999	06 07 20
tplongitude(event, altitude)/f	degrees	Tangent-Point Longitude	-999	06 07 20
tplatdeltaA(event, altitude)/f	degrees	Tangent-Point LOS Near-side latitude	-999	-- -- 20
tplondeltaA(event, altitude)/f	degrees	Tangent-Point LOS Near-side longitude	-999	-- -- 20
tplatdeltaB(event, altitude)/f	degrees	Tangent-Point LOS Far-side latitude	-999	-- -- 20

tplondeltaB(event, altitude)/f	degrees	Tangent-Point LOS Far-side longitude	-999	-- -- 20
tpSolarZen(event, altitude)/f	degrees	Tangent-Point Solar-Zenith Angle	-999	06 07 20
tpSolarLT(event, altitude)/f	msec	Tangent-Point Local-Solar Time	-999	06 07 20
elevation(event, altitude)/d	milliradians	Elevation Angle	-999	06 07 20
time_top/i	msec	Msec Since Midnight	-999	06 07 20
sclatitude_top(event, altitude)/f	degrees	Spacecraft Latitude	-999	06 07 20
sclongitude_top(event, altitude)/f	degrees	Spacecraft Longitude	-999	06 07 20
scaltitude_top(event, altitude)/f	km	Spacecraft Altitude	-999	06 07 20
tpaltitude_top(event, altitude)/f	km	Tangent-Point Altitude	-999	06 07 20
tplatitude_top(event, altitude)/f	degrees	Tangent-Point Latitude	-999	06 07 20
tplongitude_top(event, altitude)/f	degrees	Tangent-Point Longitude	-999	06 07 20
tpSolarZen_top(event, altitude)/f	degrees	Tangent-Point Solar-Zenith Angle"	-999	06 07 20
tpSolarLT_top(event, altitude)/f	msec	Tangent-Point Local-Solar Time	-999	06 07 20
elevation_top(event, altitude)/d	milliradians	Elevation Angle	-999	06 07 20
lunar_vector(event, altitude, vector)/f			-999	06 07 20
tpgpaltitude(event, altitude)/f	km	Tangent-Point Geopotential Altitude	-999	-- 07 20
pressure_lte(event, altitude)/f	mbar	Pressure (lte)	-999	06 07 20
pressure_nlte(event, altitude)/f	mbar	Pressure (nlte)	-999	06 07 20
pressure(event, altitude)/f	mbar	Pressure	-999	06 07 20
Pressure_error(event, altitude)/f	mbar	Pressure Error	-999	06 07 --
ktemp_lte(event, altitude)/f	K	Kinetic Temperature (lte)	-999	06 07 20
ktemp_nlte(event, altitude)/f	K	Kinetic Temperature (nlte)	-999	06 07 20
ktemp(event, altitude)/f	K	Kinetic Temperature (merge)	-999	06 07 20
ktemp_error(event, altitude)/f	K	Kinetic Temperature Error	-999	06 07 --
density(event, altitude)/f	$1/cm^3$	Atmospheric Density	-999	06 07 20
density_error(event, altitude)/f	$1/cm^3$	Atmospheric Density Error	-999	06 07 --
O3_96_lte(event, altitude)/f	Mixing ratio	O3 Mixing Ratio 9.6um (lte)	-999	06 07 20
O3_96_nlte(event, altitude)/f	Mixing ratio	O3 Mixing Ratio 9.6um (nlte)	-999	06 07 20
O3_96(event, altitude)/f	Mixing ratio	O3 Mixing Ratio 9.6um	-999	06 07 20
O3_96_error(event, altitude)/f		O3 9.6um channel Error	-999	06 07 --
O3_127(event, altitude)/f	Mixing ratio	O3 Mixing Ratio 1.27um Channel	-999	06 07 20
O3_127_error(event, altitude)/f		O3 1.27um channel Error	-999	06 07 --
H2O_lte(event, altitude)/f	Mixing ratio	H2O Mixing Ratio (lte)	-999	06 07 20
H2O_nlte(event, altitude)/f	Mixing ratio	H2O Mixing Ratio (nlte)	-999	06 07 20
H2O(event, altitude)/f	Mixing ratio	H2O Mixing Ratio	-999	06 07 20
H2O_error(event, altitude)/f		H2O Error	-999	06 07 --
CO2(event, altitude)/f	Mixing ratio	CO2 Mixing Ratio	-999	06 07 20
CO2_error(event,		CO2 Error	-999	06 07 --

altitude)/f				
O2_1sigma(event, altitude)/f	Mixing ratio	O2(1sigma) Mixing Ratio	-999	06 07 20
O_1D(event, altitude)/f	Mixing ratio	O(1D) Mixing Ratio	-999	06 07 20
O(event, altitude)/f	Mixing ratio	O Mixing Ratio	-999	06 07 20
H(event, altitude)/f	Mixing ratio	H Mixing Ratio	-999	06 07 20
H2O_limbpath(event, altitude)/f	molecules/cm^2	H2O masspath	-999	-- -- 20
pressure_ext(event, altitude)/f	mbar	Extended Pressure	-999	-- -- 20
ktemp_ext(event, altitude)/f	K	Extended Temperature	-999	-- -- 20
density_ext(event, altitude)/f	molecules/cm^3	Extended Density	-999	-- -- 20
N2_ext(event, altitude)/f	Mixing ratio	N2 Extended Mixing Ratio	-999	06 07 20
O2_ext(event, altitude)/f	Mixing ratio	O2 Extended Mixing Ratio	-999	06 07 20
O3_ext(event, altitude)/f	Mixing ratio	O3 Extended Mixing Ratio	-999	06 07 20
CO2_ext(event, altitude)/f	Mixing ratio	CO2 Extended Mixing Ratio	-999	06 07 20
NO2_ext(event, altitude)/f	Mixing ratio	NO2 Extended Mixing Ratio	-999	06 07 20
NO_ext(event, altitude)/f	Mixing ratio	NO Extended Mixing Ratio	-999	06 07 20
OH_ext(event, altitude)/f	Mixing ratio	OH Extended Mixing Ratio	-999	06 07 20
H2O_ext(event, altitude)/f	Mixing ratio	H2O Extended Mixing Ratio	-999	06 07 20
HO2_ext(event, altitude)/f	Mixing ratio	HO2 Extended Mixing Ratio	-999	06 07 20
H_ext(event, altitude)/f	Mixing ratio	H Extended Mixing Ratio	-999	06 07 20
O_ext(event, altitude)/f	Mixing ratio	O Extended Mixing Ratio	-999	06 07 20
O1D_ext(event, altitude)/f	Mixing ratio	O(1D) Extended Mixing Ratio	-999	06 07 20
O2_1delta_ver(event, altitude)/f	ergs/cm^3/sec	O2(1delta)VER	-999	06 07 20
O2_1delta_ver_error(event, altitude)/f	ergs/cm^3/sec	O2(1delta)VER Error	-999	06 07 --
OH_16_ver(event, altitude)/f	ergs/cm^3/sec	OH VER for 1.6 um Channel	-999	06 07 20
OH_16_ver_error(event, altitude)/f	ergs/cm^3/sec	OH VER Error	-999	06 07 --
OH_20_ver(event, altitude)/f	ergs/cm^3/sec	OH VER for 2.0 um Channel	-999	06 07 20
OH_20_ver_error(event, altitude)/f	ergs/cm^3/sec	OH VER Error	-999	06 07 --
NO_ver(event, altitude)/f	ergs/cm^3/sec	NO VER	-999	06 07 20
NO_ver_top(event, altitude)/f	ergs/cm^3/sec	NO VER	-999	06 07 20
NO_ver_error(event, altitude)/f	ergs/cm^3/sec	NO VER Error	-999	06 07 --
NO_ver_top_error(event, altitude)/f	ergs/cm^3/sec	NO VER Error	-999	06 07 --
O2_1delta_ver_unfilt(event, altitude)/f	ergs/cm^3/sec	O2(1delta)VER	-999	06 07 20
O2_1delta_ver_unfilt_error(event, altitude)/f	ergs/cm^3/sec	O2(1delta)VER Error	-999	06 07 --
OH_16_ver_unfilt(event, altitude)/f	ergs/cm^3/sec	OH VER for 1.6 um Channel	-999	06 07 20
OH_16_ver_unfilt_error(event, altitude)/f	ergs/cm^3/sec	OH VER Error	-999	06 07 --
OH_20_ver_unfilt(event, altitude)/f	ergs/cm^3/sec	OH VER for 2.0 um Channel	-999	06 07 20
OH_20_ver_unfilt_error(event, altitude)/f	ergs/cm^3/sec	OH VER Error	-999	06 07 --
NO_ver_unfilt(event, altitude)/f	ergs/cm^3/sec	NO VER	-999	06 07 20
NO_ver_top_unfilt(event, altitude)/f	ergs/cm^3/sec	NO VER	-999	06 07 20
NO_ver_unfilt_error(event, altitude)/f	ergs/cm^3/sec	NO VER Error	-999	06 07 --
NO_ver_top_unfilt_error(event, altitude)/f	ergs/cm^3/sec	NO VER Error	-999	06 07 --
Rad_chan1(event, altitude)/f	w/m^2/st	Channel 1 radiances	-999	06 07 20
Rad_chan2(event,	w/m^2/st	Channel 2 radiances	-999	06 07 20

altitude)/f				
Rad_chan3(event, altitude)/f	w/m^2/st	Channel 3 radiances	-999	06 07 20
Rad_chan4(event, altitude)/f	w/m^2/st	Channel 4 radiances	-999	06 07 20
Rad_chan5(event, altitude)/f	w/m^2/st	Channel 5 radiances	-999	06 07 20
Rad_chan6(event, altitude)/f	w/m^2/st	Channel 6 radiances	-999	06 07 20
Rad_chan6_top(event, altitude)/f	w/m^2/st	Channel 6 radiances (high altitude)	-999	06 07 20
Rad_chan7(event, altitude)/f	w/m^2/st	Channel 7 radiances	-999	06 07 20
Rad_chan8(event, altitude)/f	w/m^2/st	Channel 8 radiances	-999	06 07 20
Rad_chan9(event, altitude)/f	w/m^2/st	Channel 9 radiances	-999	06 07 20
Rad_chan10(event, altitude)/f	w/m^2/st	Channel 10 radiances	-999	06 07 20
TvO2_1(event, altitude)/f	K	vibT for O2(1)	-999	06 07 20
TvN2_1(event, altitude)/f	K	vibT for N2(1)	-999	06 07 20
TeO2_1delta(event, altitude)/f	K	electronic T for O2(1delta) Electronic States	-999	06 07 20
TvCO2_626_01101(event, altitude)/f	K	vibT for CO2 626_01101	-999	06 07 20
TvCO2_626_02201(event, altitude)/f	K	vibT for CO2 626_02201	-999	06 07 20
TvCO2_626_03301(event, altitude)/f	K	vibT for CO2 626_03301	-999	06 07 20
TvCO2_626_00011(event, altitude)/f	K	vibT for CO2 626_00011	-999	06 07 20
TvCO2_626_01111(event, altitude)/f	K	vibT for CO2 626_01111	-999	06 07 20
TvCO2_626_10012(event, altitude)/f	K	vibT for CO2 626_10012	-999	06 07 20
TvCO2_626_02211(event, altitude)/f	K	vibT for CO2 626_02211	-999	06 07 20
TvCO2_626_10011(event, altitude)/f	K	vibT for CO2 626_10011	-999	06 07 20
TvCO2_626_11112(event, altitude)/f	K	vibT for CO2 626_11112	-999	06 07 20
TvCO2_626_03311(event, altitude)/f	K	vibT for CO2 626_03311	-999	06 07 20
TvCO2_626_11111(event, altitude)/f	K	vibT for CO2 626_11111	-999	06 07 20
TvCO2_626_20013(event, altitude)/f	K	vibT for CO2 626_20013	-999	06 07 20
TvCO2_626_12212(event, altitude)/f	K	vibT for CO2 626_12212	-999	06 07 20
TvCO2_626_04411(event, altitude)/f	K	vibT for CO2 626_04411	-999	06 07 20
TvCO2_626_20012(event, altitude)/f	K	vibT for CO2 626_20012	-999	06 07 20
TvCO2_626_12211(event, altitude)/f	K	vibT for CO2 626_12211	-999	06 07 20
TvCO2_626_20011(event, altitude)/f	K	vibT for CO2 626_20011	-999	06 07 20
TvCO2_636_01101(event, altitude)/f	K	vibT for CO2 636_01101	-999	06 07 20
TvCO2_636_02201(event, altitude)/f	K	vibT for CO2 636_02201	-999	06 07 20
TvCO2_636_00011(event, altitude)/f	K	vibT for CO2 636_00011	-999	06 07 20
TvCO2_628_01101(event, altitude)/f	K	vibT for CO2 628_01101	-999	06 07 20
TvCO2_628_02201(event, altitude)/f	K	vibT for CO2 628_02201	-999	06 07 20
TvCO2_628_00011(event,	K	vibT for CO2 628_00011	-999	06 07 20

altitude)/f				
TvCO2_627_01101(event, altitude)/f	K	vibT for CO2 627_01101	-999	06 07 20
TvCO2_627_02201(event, altitude)/f	K	vibT for CO2 627_02201	-999	06 07 20
TvCO2_627_00011(event, altitude)/f	K	vibT for CO2 627_00011	-999	06 07 20
TvH2O_161_010(event, altitude)/f	K	vibT for H2O 161_010	-999	06 07 20
TvH2O_161_020(event, altitude)/f	K	vibT for H2O 161_020	-999	06 07 20
TvO3_666_001(event, altitude)/f	K	vibT for O3 666_001	-999	06 07 20
TvO3_666_002(event, altitude)/f	K	vibT for O3 666_002	-999	06 07 20
TvO3_666_010(event, altitude)/f	K	vibT for O3 666_010	-999	06 07 20
TvO3_666_011(event, altitude)/f	K	vibT for O3 666_011	-999	06 07 20
TvO3_666_020(event, altitude)/f	K	vibT for O3 666_020	-999	06 07 20
TvO3_666_021(event, altitude)/f	K	vibT for O3 666_021	-999	06 07 20
TvO3_666_100(event, altitude)/f	K	vibT for O3 666_100	-999	06 07 20
TvO3_666_101(event, altitude)/f	K	vibT for O3 666_101	-999	06 07 20
TvO3_666_110(event, altitude)/f	K	vibT for O3 666_110	-999	06 07 20
OH_pop_0(event, altitude)/f	/cm3	Population for OH 0	-999	06 07 --
OH_pop_1(event, altitude)/f	/cm3	Population for OH 1	-999	06 07 --
OH_pop_2(event, altitude)/f	/cm3	Population for OH 2	-999	06 07 --
OH_pop_3(event, altitude)/f	/cm3	Population for OH 3	-999	06 07 --
OH_pop_4(event, altitude)/f	/cm3	Population for OH 4	-999	06 07 --
OH_pop_5(event, altitude)/f	/cm3	Population for OH 5	-999	06 07 --
OH_pop_6(event, altitude)/f	/cm3	Population for OH 6	-999	06 07 --
OH_pop_7(event, altitude)/f	/cm3	Population for OH 7	-999	06 07 --
OH_pop_8(event, altitude)/f	/cm3	Population for OH 8	-999	06 07 --
OH_pop_9(event, altitude)/f	/cm3	Population for OH 9	-999	06 07 --
NO_cool(event, altitude)/f	K/day	cooling rate for NO	-999	06 07 --
CO2_cool_626_01101_00001(event, altitude)/f	K/day	cooling rate for CO2_626_01101_00001	-999	06 07 20
CO2_cool_626_02201_01101(event, altitude)/f	K/day	cooling rate for CO2_626_02201_01101	-999	06 07 20
CO2_cool_626_03301_02201(event, altitude)/f	K/day	cooling rate for CO2_626_03301_02201	-999	06 07 20
CO2_cool_626_00011_00001(event, altitude)/f	K/day	cooling rate for CO2_626_00011_00001	-999	06 07 20
CO2_cool_626_01111_01101(event, altitude)/f	K/day	cooling rate for CO2_626_01111_01101	-999	06 07 20
CO2_cool_626_10012_00001(event, altitude)/f	K/day	cooling rate for CO2_626_10012_00001	-999	06 07 20
CO2_cool_626_10011_00001(event, altitude)/f	K/day	cooling rate for CO2_626_10011_00001	-999	06 07 20
CO2_cool_626_10012_10002(event, altitude)/f	K/day	cooling rate for CO2_626_10012_10002	-999	06 07 20
CO2_cool_626_02211_02201(event, altitude)/f	K/day	cooling rate for CO2_626_02211_02201	-999	06 07 20
CO2_cool_626_10011_10001(event, altitude)/f	K/day	cooling rate for CO2_626_10011_10001	-999	06 07 20
CO2_cool_626_11112_01101(event, altitude)/f	K/day	cooling rate for CO2_626_11112_01101	-999	06 07 20
CO2_cool_626_11111_01101(event, altitude)/f	K/day	cooling rate for CO2_626_11111_01101	-999	06 07 20
CO2_cool_626_11112_11102(event, altitude)/f	K/day	cooling rate for CO2_626_11112_11102	-999	06 07 20
CO2_cool_626_03311_03301(event, altitude)/f	K/day	cooling rate for CO2_626_03311_03301	-999	06 07 20
CO2_cool_626_11111_11101(ev	K/day	cooling rate for	-999	06 07 20

ent, altitude)/f		CO2_626_11111_11101		
CO2_cool_626_20013_00001(event, altitude)/f	K/day	cooling rate for CO2_626_20013_00001	-999	06 07 20
CO2_cool_626_20012_00001(event, altitude)/f	K/day	cooling rate for CO2_626_20012_00001	-999	06 07 20
CO2_cool_626_20011_00001(event, altitude)/f	K/day	cooling rate for CO2_626_20011_00001	-999	06 07 20
CO2_cool_636_01101_00001(event, altitude)/f	K/day	cooling rate for CO2_636_01101_00001	-999	06 07 20
CO2_cool_636_02201_01101(event, altitude)/f	K/day	cooling rate for CO2_636_02201_01101	-999	06 07 20
CO2_cool_636_00011_00001(event, altitude)/f	K/day	cooling rate for CO2_636_00011_00001	-999	06 07 20
CO2_cool_628_01101_00001(event, altitude)/f	K/day	cooling rate for CO2_628_01101_00001	-999	06 07 20
CO2_cool_628_02201_01101(event, altitude)/f	K/day	cooling rate for CO2_628_02201_01101	-999	06 07 20
CO2_cool_628_00011_00001(event, altitude)/f	K/day	cooling rate for CO2_628_00011_00001	-999	06 07 20
CO2_cool_627_01101_00001(event, altitude)/f	K/day	cooling rate for CO2_627_01101_00001"	-999	06 07 20
CO2_cool_627_02201_01101(event, altitude)/f	K/day	cooling rate for CO2_627_02201_01101	-999	06 07 20
CO2_cool_627_00011_00001(event, altitude)/f	K/day	cooling rate for CO2_627_00011_00001	-999	06 07 20
H2O_cool_161_010_000(event, altitude)/f	K/day	cooling rate for H2O_161_010_000	-999	06 07 20
H2O_cool_161_020_000(event, altitude)/f	K/day	cooling rate for H2O_161_020_000	-999	06 07 20
H2O_cool_161_020_010(event, altitude)/f	K/day	cooling rate for H2O_161_020_010	-999	06 07 20
H2O_cool_161_100_000(event, altitude)/f	K/day	cooling rate for H2O_161_100_000	-999	06 07 20
H2O_cool_161_100_010(event, altitude)/f	K/day	cooling rate for H2O_161_100_010	-999	06 07 20
H2O_cool_161_001_000(event, altitude)/f	K/day	"cooling rate for H2O_161_001_00	-999	06 07 20
H2O_cool_161_001_010(event, altitude)/f	K/day	cooling rate for H2O_161_001_010	-999	06 07 20
H2O_cool_161_011_000(event, altitude)/f	K/day	cooling rate for H2O_161_011_000	-999	06 07 20
H2O_cool_farir(event,altitude)/f	K/day	cooling rate for H2O in the far-ir	-999	06 07 --
O3_cool_666_001_000(event, altitude)/f	K/day	cooling rate for O3_666_001_000	-999	06 07 20
O3_cool_666_010_000(event, altitude)/f	K/day	cooling rate for O3_666_010_000	-999	06 07 --
O3_cool_666_100_000(event, altitude)/f	K/day	cooling rate for O3_666_100_000	-999	06 07 --
O3_cool_666_011_001(event, altitude)/f	K/day	cooling rate for O3_666_011_001	-999	06 07 --
CO2_solar_heat_626_00011_00001(event, altitude)/f	K/day	solar_energy deposition rate for CO2_626_00011_00001	-999	06 07 --
CO2_solar_heat_626_01111_01101(event, altitude)/f	K/day	solar_energy deposition rate for CO2_626_01111_01101	-999	06 07 --
CO2_solar_heat_626_10012_00001(event, altitude)/f	K/day	solar_energy deposition rate for CO2_626_10012_00001	-999	06 07 --
CO2_solar_heat_626_10011_00001(event, altitude)/f	K/day	solar_energy deposition rate for CO2_626_10011_00001	-999	06 07 --
CO2_solar_heat_626_10012_10002(event, altitude)/f	K/day	solar_energy deposition rate for CO2_626_10012_10002	-999	06 07 --
CO2_solar_heat_626_02211_02201(event, altitude)/f	K/day	solar_energy deposition rate for CO2_626_02211_02201	-999	06 07 --

CO2_solar_heat_626_10011_10001(event, altitude)/f	K/day	solar_energy deposition rate for CO2_626_10011_10001	-999	06 07 --
CO2_solar_heat_626_11112_01101(event, altitude)/f	K/day	solar_energy deposition rate for CO2_626_11112_01101	-999	06 07 --
CO2_solar_heat_626_11111_01101(event, altitude)/f	K/day	solar_energy deposition rate for CO2_626_11111_01101	-999	06 07 --
CO2_solar_heat_626_11112_11102(event, altitude)/f	K/day	solar_energy deposition rate for CO2_626_11112_11102	-999	06 07 --
CO2_solar_heat_626_03311_03301(event, altitude)/f	K/day	solar_energy deposition rate for CO2_626_03311_03301	-999	06 07 --
CO2_solar_heat_626_11111_11101(event, altitude)/f	K/day	solar_energy deposition rate for CO2_626_11111_11101	-999	06 07 --
CO2_solar_heat_626_20013_00001(event, altitude)/f	K/day	solar_energy deposition rate for CO2_626_20013_00001	-999	06 07 --
CO2_solar_heat_626_20012_00001(event, altitude)/f	K/day	solar_energy deposition rate for CO2_626_20012_00001	-999	06 07 --
CO2_solar_heat_626_20011_00001(event, altitude)/f	K/day	solar_energy deposition rate for CO2_626_20011_00001	-999	06 07 --
CO2_solar_heat_636_00011_00001(event, altitude)/f	K/day	solar_energy deposition rate for CO2_636_00011_00001	-999	06 07 --
CO2_solar_heat_628_00011_00001(event, altitude)/f	K/day	solar_energy deposition rate for CO2_628_00011_00001	-999	06 07 --
CO2_solar_heat_627_00011_00001(event, altitude)/f	K/day	solar_energy deposition rate for CO2_627_00011_00001	-999	06 07 --
H2O_solar_heat_161_010_000(event, altitude)/f	K/day	solar_energy deposition rate for H2O_161_010_000	-999	06 07 --
H2O_solar_heat_161_020_000(event, altitude)/f	K/day	solar_energy deposition rate for H2O_161_020_000	-999	06 07 --
H2O_solar_heat_161_020_010(event, altitude)/f	K/day	solar_energy deposition rate for H2O_161_020_010	-999	06 07 --
H2O_solar_heat_161_100_000(event, altitude)/f	K/day	solar_energy deposition rate for H2O_161_100_000	-999	06 07 --
H2O_solar_heat_161_100_010(event, altitude)/f	K/day	solar_energy deposition rate for H2O_161_100_010	-999	06 07 --
H2O_solar_heat_161_001_000(event, altitude)/f	K/day	solar_energy deposition rate for H2O_161_001_000"	-999	06 07 --
H2O_solar_heat_161_001_010(event, altitude)/f	K/day	solar_energy deposition rate for H2O_161_001_010	-999	06 07 --
H2O_solar_heat_161_011_000(event, altitude)/f	K/day	solar_energy deposition rate for H2O_161_011_000	-999	06 07 --
SJ_hartley(event, altitude)/f	/s	Photodissociation rate for O3_hartley	-999	-- -- 20
O3_solar_heat_hartley(event, altitude)/f	K/day	solar heating rate for O3_hartley	-999	06 07 20
O3_solar_heat_huggins(event, altitude)/f	K/day	solar heating rate for O3_huggins	-999	06 07 20
O3_solar_heat_chappuis(event, altitude)/f	K/day	solar heating rate for O3_chappuis	-999	06 07 20
O2_solar_heat_ly_alpha(event, altitude)/f	K/day	solar heating rate for O2_ly_alpha	-999	06 07 20
O2_solar_heat_herzberg(event, altitude)/f	K/day	solar heating rate for O2_herzberg	-999	06 07 20
O2_solar_heat_schumann_runge_cont(event, altitude)/f	K/day	solar heating rate for O2_schumann_runge_cont	-999	06 07 20
O2_solar_heat_schumann_runge_band(event, altitude)/f	K/day	solar heating rate for O2_schumann_runge_band	-999	06 07 20
O2_solar_heat_atmospheric_b	K/day	solar energy deposition	-999	06 07 20

ands(event, altitude)/f		rate O2_atmospheric_bands		
chem_heat_H_O2_M(event, altitude)/f	K/day	chemical heating rate for H+O2+M	-999	06 07 20
chem_heat_H_O3(event, altitude)/f	K/day	chemical heating rate for H+O3	-999	06 07 20
chem_heat_O_O3(event, altitude)/f	K/day	chemical heating rate for O+O3	-999	06 07 20
chem_heat_O_OH(event, altitude)/f	K/day	chemical heating rate for O+OH	-999	06 07 20
chem_heat_O_HO2(event, altitude)/f	K/day	chemical heating rate for O+HO2	-999	06 07 20
chem_heat_O_O_M(event, altitude)/f	K/day	chemical heating rate for O+O+M	-999	06 07 20
chem_heat_O_O2_M(event, altitude)/f	K/day	chemical heating rate for O+O2+M	-999	06 07 20

* f=float, d=double, s=short, i=int, c=char.
** 06=1.06, 07=1.07, 20=2.0, RED means data unfilled for that version.
*** The 81 day average F10.7 flux is not available because the 81 day average is centered about the current day; while we could run on older data and have a value, processing of the newer data would have to be delayed until +40 days after the date of the data to permit the average value to be calculated. The daily flux value (limited to the range 71 - 212) is substituted for the average in the processing code.