CMIP6 Model Documentation

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Documentation Contents

1 Key Properties

Key properties of the atmospheric chemistry

1.1 Key Properties

Key properties of the atmospheric chemistry

1.1.1 Model Overview

Overview of atmospheric chemistry model.

Spec. ID: cmip6.atmoschem.key_properties.model_overview

Is Required ? TRUE

Enter TEXT value:

1.1.2 Model Name

Name of atmospheric chemistry model code.

Spec. ID: cmip6.atmoschem.key_properties.model_name

Is Required ? TRUE

Enter TEXT value:

1.1.3 Chemistry Scheme Scope

Atmospheric domains covered by the atmospheric chemistry model

Spec. ID: cmip6.atmoschem.key_properties.chemistry_scheme_scope

Is Required ? TRUE

Select value(s):

☐ Troposhere

☒ Stratosphere

☒ Mesosphere

☒ Mesosphere

☒ Whole atmosphere

☐ Other - please specify:

1.1.4 Basic Approximations

Basic approximations made in the atmospheric chemistry model

Spec. ID: cmip6.atmoschem.key_properties.basic_approximations

Is Required ? TRUE

Enter TEXT value: Lumped higher hydrocarbon species and oxidation products, parameterized source of Cly and Bry in stratosphere, short-lived species not advected

1.1.5 Prognostic Variables Form

Form of prognostic variables in the atmospheric chemistry component.

Spec. ID: cmip6.atmoschem.key_properties.prognostic_variables_form

Is Required ? TRUE

Select value(s):

☐ 3D mass/mixing ratio for gas

☐ Other - please specify:

1.1.6 Number Of Tracers

Number of advected tracers in the atmospheric chemistry model

Spec. ID: cmip6.atmoschem.key_properties.number_of_tracers

Is Required ? TRUE

Enter INTEGER value: 82

1.1.7 Family Approach

Atmospheric chemistry calculations (not advection) generalized into families of speciesxxx?

Spec. ID: cmip6.atmoschem.key_properties.family_approach

Is Required ? TRUE

Select value:

☐ True ☐ False

1.1.8 Coupling With Chemical Reactivity

Atmospheric chemistry transport scheme turbulence is couple with chemical reactivityxxx?

Spec. ID: cmip6.atmoschem.key_properties.coupling_with_chemical_reactivity

Is Required ? TRUE

Select value:

☒ True ☐ False

1.2 Software Properties

Software properties of aerosol code

1.2.1 Repository

Location of code for this component.

Spec. ID: cmip6.atmoschem.key_properties.software_properties.repository

Is Required ? FALSE

Enter TEXT value:

1.2.2 Code Version

Code version identifier.

Spec. ID: cmip6.atmoschem.key_properties.software_properties.code_version

Is Required ? FALSE

Enter TEXT value:

1.2.3 Code Languages

Code language(s).

Spec. ID: cmip6.atmoschem.key_properties.software_properties.code_languages

Is Required ? FALSE

Enter TEXT value(s):

1.3 Timestep Framework

Timestepping in the atmospheric chemistry model

1.3.1 Method

Mathematical method deployed to solve the evolution of a given variable

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.method

Is Required ? TRUE

Select value:

☒ Operator splitting

☐ Integrated

☐ Other - please specify:

1.3.2 Split Operator Advection Timestep

Timestep for chemical species advection (in seconds)

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.split_operator_advection_timestep

Is Required ? FALSE

Enter INTEGER value: 30

1.3.3 Split Operator Physical Timestep

Timestep for physics (in seconds).

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.split_operator_physical_timestep

Is Required ? FALSE

Enter INTEGER value: 30

1.3.4 Split Operator Chemistry Timestep

Timestep for chemistry (in seconds).

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.split_operator_chemistry_timestep

Is Required ? FALSE

Enter INTEGER value:

1.3.5 Split Operator Alternate Order

xxx?

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.split_operator_alternate_order

Is Required ? FALSE

Select value:

☐ True ☐ False

1.3.6 Integrated Timestep

Timestep for the atmospheric chemistry model (in seconds)

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.integrated_timestep

Is Required ? TRUE

Enter INTEGER value:

1.3.7 Integrated Scheme Type

Specify the type of timestep scheme

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.integrated_scheme_type

Is Required ? TRUE

Select value:

☐ Explicit

☐ Implicit

☐ Semi-implicit

☐ Semi-analytic

- ☐ Impact solver
- ☐ Back Euler
- ☐ Newton Raphson
- ☐ Rosenbrock
- ☐ Other - please specify:

1.4 Split Operator Order

1.4.1 Turbulence

Call order for turbulence scheme. This should be an integer greater than zero, and may be the same value as for another process if they are calculated at the same time.

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.split_operator_order.turbulence

Is Required ? FALSE

Enter INTEGER value:

1.4.2 Convection

Call order for convection scheme This should be an integer greater than zero, and may be the same value as for another process if they are calculated at the same time.

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.split_operator_order.convection

Is Required ? FALSE

Enter INTEGER value:

1.4.3 Precipitation

Call order for precipitation scheme. This should be an integer greater than zero, and may be the same value as for another process if they are calculated at the same time.

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.split_operator_order.precipitation

Is Required ? FALSE

Enter INTEGER value:

1.4.4 Emissions

Call order for emissions scheme. This should be an integer greater than zero, and may be the same value as for another process if they are calculated at the same time.

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.split_operator_order.emissions

Is Required ? FALSE

Enter INTEGER value:

1.4.5 Deposition

Call order for deposition scheme. This should be an integer greater than zero, and may be the same value as for another process if they are calculated at the same time.

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.split_operator_order.deposition

Is Required ? FALSE

Enter INTEGER value:

1.4.6 Gas Phase Chemistry

Call order for gas phase chemistry scheme. This should be an integer greater than zero, and may be the same value as for another process if they are calculated at the same time.

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.split_operator_order.gas_phase_chemistry

Is Required ? FALSE

Enter INTEGER value:

1.4.7 Tropospheric Heterogeneous Phase Chemistry

Call order for tropospheric heterogeneous phase chemistry scheme. This should be an integer greater than zero, and may be the same value as for another process if they are calculated at the same time.

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.split_operator_order.tropospheric_heterogeneous_phase_chemistry

Is Required ? FALSE

Enter INTEGER value:

1.4.8 Stratospheric Heterogeneous Phase Chemistry

Call order for stratospheric heterogeneous phase chemistry scheme. This should be an integer greater than zero, and may be the same value as for another process if they are calculated at the same time.

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.split_operator_order.stratospheric_heterogeneous_phase_chemistry

Is Required ? FALSE

Enter INTEGER value:

1.4.9 Photo Chemistry

Call order for photo chemistry scheme. This should be an integer greater than zero, and may be the same value as for another process if they are calculated at the same time.

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.split_operator_order.photo_chemistry

Is Required ? FALSE

Enter INTEGER value:

1.4.10 Aerosols

Call order for aerosols scheme. This should be an integer greater than zero, and may be the same value as for another process if they are calculated at the same time.

Spec. ID: cmip6.atmoschem.key_properties.timestep_framework.split_operator_order.aerosols

Is Required ? FALSE

Enter INTEGER value:

1.5 Tuning Applied

Tuning methodology for atmospheric chemistry component

1.5.1 Description

General overview description of tuning: explain and motivate the main targets and metrics retained. andDocument the relative weight given to climate performance metrics versus process oriented metrics, andand on the possible conflicts with parameterization level tuning. In particular describe any struggle andwith a parameter value that required pushing it to its limits to solve a particular model deficiency.

Spec. ID: cmip6.atmoschem.key_properties.tuning_applied.description

Is Required ? TRUE

Enter TEXT value:

1.5.2 Global Mean Metrics Used

List set of metrics of the global mean state used in tuning model/component

Spec. ID: cmip6.atmoschem.key_properties.tuning_applied.global_mean_metrics_used

Is Required ? FALSE

Enter TEXT value(s):

1.5.3 Regional Metrics Used

List of regional metrics of mean state used in tuning model/component

Spec. ID: cmip6.atmoschem.key_properties.tuning_applied.regional_metrics_used

Is Required ? FALSE

Enter TEXT value(s):

1.5.4 Trend Metrics Used

List observed trend metrics used in tuning model/component

Spec. ID: cmip6.atmoschem.key_properties.tuning_applied.trend_metrics_used

Is Required ? FALSE

Enter TEXT value(s):

2 Grid

Atmospheric chemistry grid

2.1 Grid

Atmospheric chemistry grid

2.1.1 Overview

Describe the general structure of the atmopsheric chemistry grid

Spec. ID: cmip6.atmoschem.grid.overview

Is Required ? TRUE

Enter TEXT value:

2.1.2 Matches Atmosphere Grid

Does the atmospheric chemistry grid match the atmosphere gridxxx?

Spec. ID: cmip6.atmoschem.grid.matches_atmosphere_grid

Is Required ? TRUE

Select value:

☐ True ☐ False

2.2 Resolution

Resolution in the atmospheric chemistry grid

2.2.1 Name

This is a string usually used by the modelling group to describe the resolution of this grid, e.g. ORCA025, N512L180, T512L70 etc.

Spec. ID: cmip6.atmoschem.grid.resolution.name

Is Required ? TRUE

Enter TEXT value:

2.2.2 Canonical Horizontal Resolution

Expression quoted for gross comparisons of resolution, eg. 50km or 0.1 degrees etc.

Spec. ID: cmip6.atmoschem.grid.resolution.canonical_horizontal_resolution

Is Required ? FALSE

Enter TEXT value:

2.2.3 Number Of Horizontal Gridpoints

Total number of horizontal (XY) points (or degrees of freedom) on computational grid.

Spec. ID: cmip6.atmoschem.grid.resolution.number_of_horizontal_gridpoints

Is Required ? FALSE

Enter INTEGER value:

2.2.4 Number Of Vertical Levels

Number of vertical levels resolved on computational grid.

Spec. ID: cmip6.atmoschem.grid.resolution.number_of_vertical_levels

Is Required ? FALSE

Enter INTEGER value:

2.2.5 Is Adaptive Grid

Default is False. Set true if grid resolution changes during execution.

Spec. ID: cmip6.atmoschem.grid.resolution.is_adaptive_grid

Is Required ? FALSE

Select value:

☐ True ☐ False

3 Transport

Atmospheric chemistry transport

3.1 Transport

Atmospheric chemistry transport

3.1.1 Overview

General overview of transport implementation

Spec. ID: cmip6.atmoschem.transport.overview

Is Required ? TRUE

Enter TEXT value:

3.1.2 Use Atmospheric Transport

Is transport handled by the atmosphere, rather than within atmospheric cehmistryxxx?

Spec. ID: cmip6.atmoschem.transport.use_atmospheric_transport

Is Required ? TRUE

Select value:

☐ True ☐ False

3.1.3 Transport Details

If transport is handled within the atmospheric chemistry scheme, describe it.

Spec. ID: cmip6.atmoschem.transport.transport_details

Is Required ? FALSE

Enter TEXT value:

4 Emissions Concentrations

Atmospheric chemistry emissions

4.1 Emissions Concentrations

Atmospheric chemistry emissions

4.1.1 Overview

Overview atmospheric chemistry emissions

Spec. ID: cmip6.atmoschem.emissions_concentrations.overview

Is Required ? TRUE

Enter TEXT value:

4.2 Surface Emissions

4.2.1 Sources

Sources of the chemical species emitted at the surface that are taken into account in the emissions scheme

Spec. ID: cmip6.atmoschem.emissions_concentrations.surface_emissions.sources

Is Required ? FALSE

Select value(s):

☒ Vegetation

☐ Soil

☒ Sea surface

☒ Anthropogenic

☐ Biomass burning

☐ Other - please specify:

4.2.2 Method

Methods used to define chemical species emitted directly into model layers above the surface (several methods allowed because the different species may not use the same method).

Spec. ID: cmip6.atmoschem.emissions_concentrations.surface_emissions.method

Is Required ? FALSE

Select value(s):

☐ Climatology

☐ Spatially uniform mixing ratio

☐ Spatially uniform concentration

☐ Interactive

☐ Other - please specify:

4.2.3 Prescribed Climatology Emitted Species

List of chemical species emitted at the surface and prescribed via a climatology, and the nature of the climatology (E.g. CO (monthly), C2H6 (constant))

Spec. ID: cmip6.atmoschem.emissions_concentrations.surface_emissions.prescribed_climatology_emitted_species

Is Required ? FALSE

Enter TEXT value: CO, CH2O, NO, C3H6, isoprene, C2H6, C2H4, C4H10, terpenes, C3H8, acetone, CH3OH, C2H5OH, H2, SO2, NH3

4.2.4 Prescribed Spatially Uniform Emitted Species

List of chemical species emitted at the surface and prescribed as spatially uniform

Spec. ID: cmip6.atmoschem.emissions_concentrations.surface_emissions.prescribed_spatially_uniform_emitted_species

Is Required ? FALSE

Enter TEXT value:

4.2.5 Interactive Emitted Species

List of chemical species emitted at the surface and specified via an interactive method

Spec. ID: cmip6.atmoschem.emissions_concentrations.surface_emissions.interactive_emitted_species

Is Required ? FALSE

Enter TEXT value: DMS

4.2.6 Other Emitted Species

List of chemical species emitted at the surface and specified via any other method

Spec. ID: cmip6.atmoschem.emissions_concentrations.surface_emissions.other_emitted_species

Is Required ? FALSE

Enter TEXT value:

4.3 Atmospheric Emissions

TO DO

4.3.1 Sources

Sources of chemical species emitted in the atmosphere that are taken into account in the emissions scheme.

Spec. ID: cmip6.atmoschem.emissions_concentrations.atmospheric_emissions.sources

Is Required ? FALSE

Select value(s):

☒ Aircraft

☒ Biomass burning

☒ Lightning

☐ Volcanos

☐ Other - please specify:

4.3.2 Method

Methods used to define the chemical species emitted in the atmosphere (several methods allowed because the different species may not use the same method).

Spec. ID: cmip6.atmoschem.emissions_concentrations.atmospheric_emissions.method

Is Required ? FALSE

Select value(s):

☐ Climatology

☐ Spatially uniform mixing ratio

☐ Spatially uniform concentration

☐ Interactive

☐ Other - please specify:

4.3.3 Prescribed Climatology Emitted Species

List of chemical species emitted in the atmosphere and prescribed via a climatology (E.g. CO (monthly), C2H6 (constant))

Spec. ID: cmip6.atmoschem.emissions_concentrations.atmospheric_emissions.prescribed_climatology_emitted_species

Is Required ? FALSE

Enter TEXT value: CO, CH2O, NO, C3H6, isoprene, C2H6, C2H4, C4H10, terpenes, C3H8, acetone, CH3OH, C2H5OH, H2, SO2, NH3

4.3.4 Prescribed Spatially Uniform Emitted Species

List of chemical species emitted in the atmosphere and prescribed as spatially uniform

Spec. ID: cmip6.atmoschem.emissions__concentrations.atmospheric__emissions.prescribed__spatially__uniform__-emitted__species

Is Required ? FALSE

Enter TEXT value:

4.3.5 Interactive Emitted Species

List of chemical species emitted in the atmosphere and specified via an interactive method

Spec. ID: cmip6.atmoschem.emissions__concentrations.atmospheric__emissions.interactive__emitted__species

Is Required ? FALSE

Enter TEXT value:

4.3.6 Other Emitted Species

List of chemical species emitted in the atmosphere and specified via an other method

Spec. ID: cmip6.atmoschem.emissions__concentrations.atmospheric__emissions.other__emitted__species

Is Required ? FALSE

Enter TEXT value:

4.4 Concentrations

TO DO

4.4.1 Prescribed Lower Boundary

List of species prescribed at the lower boundary.

Spec. ID: cmip6.atmoschem.emissions__concentrations.concentrations.prescribed__lower__boundary

Is Required ? FALSE

Enter TEXT value: CH4, N2O

4.4.2 Prescribed Upper Boundary

List of species prescribed at the upper boundary.

Spec. ID: cmip6.atmoschem.emissions__concentrations.concentrations.prescribed__upper__boundary

Is Required ? FALSE

Enter TEXT value:

5 Gas Phase Chemistry

Atmospheric chemistry transport

5.1 Gas Phase Chemistry

Atmospheric chemistry transport

5.1.1 Overview

Overview gas phase atmospheric chemistry

Spec. ID: cmip6.atmoschem.gas_phase_chemistry.overview

Is Required ? TRUE

Enter TEXT value:

5.1.2 Species

Species included in the gas phase chemistry scheme.

Spec. ID: cmip6.atmoschem.gas_phase_chemistry.species

Is Required ? FALSE

Select value(s):

☒ HOx

☒ NOy

☒ Ox

☒ Cly

☐ HSOx

☒ Bry

☒ VOCs

☒ Isoprene

☒ H2O

☐ Other - please specify:

5.1.3 Number Of Bimolecular Reactions

The number of bi-molecular reactions in the gas phase chemistry scheme.

Spec. ID: cmip6.atmoschem.gas_phase_chemistry.number_of_bimolecular_reactions

Is Required ? TRUE

Enter INTEGER value: 157

5.1.4 Number Of Termolecular Reactions

The number of ter-molecular reactions in the gas phase chemistry scheme.

Spec. ID: cmip6.atmoschem.gas_phase_chemistry.number_of_termolecular_reactions

Is Required ? TRUE

Enter INTEGER value: 21

5.1.5 Number Of Tropospheric Heterogenous Reactions

The number of reactions in the tropospheric heterogeneous chemistry scheme.

Spec. ID: cmip6.atmoschem.gas_phase_chemistry.number_of_tropospheric_heterogenous_reactions

Is Required ? TRUE

Enter INTEGER value:

5.1.6 Number Of Stratospheric Heterogenous Reactions

The number of reactions in the stratospheric heterogeneous chemistry scheme.

Spec. ID: cmip6.atmoschem.gas_phase_chemistry.number_of_stratospheric_heterogenous_reactions

Is Required ? TRUE

Enter INTEGER value:

5.1.7 Number Of Advected Species

The number of advected species in the gas phase chemistry scheme.

Spec. ID: cmip6.atmoschem.gas_phase_chemistry.number_of_advected_species

Is Required ? TRUE

Enter INTEGER value:

5.1.8 Number Of Steady State Species

The number of gas phase species for which the concentration is updated in the chemical solver assuming photochemical steady state

Spec. ID: cmip6.atmoschem.gas_phase_chemistry.number_of_steady_state_species

Is Required ? TRUE

Enter INTEGER value: 19

5.1.9 Interactive Dry Deposition

Is dry deposition interactive (as opposed to prescribed)xxx? Dry deposition describes the dry processes by which gaseous species deposit themselves on solid surfaces thus decreasing their concentration in the air.

Spec. ID: cmip6.atmoschem.gas_phase_chemistry.interactive_dry_deposition

Is Required ? TRUE

Select value:

☐ True ☐ False

5.1.10 Wet Deposition

Is wet deposition includedxxx? Wet deposition describes the moist processes by which gaseous species deposit themselves on solid surfaces thus decreasing their concentration in the air.

Spec. ID: cmip6.atmoschem.gas_phase_chemistry.wet_deposition

Is Required ? TRUE

Select value:

☒ True ☐ False

5.1.11 Wet Oxidation

Is wet oxidation includedxxx? Oxidation describes the loss of electrons or an increase in oxidation state by a molecule

Spec. ID: cmip6.atmoschem.gas_phase_chemistry.wet_oxidation

Is Required ? TRUE

Select value:

☒ True ☐ False

6 Stratospheric Heterogeneous Chemistry

Atmospheric chemistry startospheric heterogeneous chemistry

6.1 Stratospheric Heterogeneous Chemistry

Atmospheric chemistry startospheric heterogeneous chemistry

6.1.1 Overview

Overview stratospheric heterogenous atmospheric chemistry

Spec. ID: cmip6.atmoschem.stratospheric_heterogeneous_chemistry.overview

Is Required ? TRUE

Enter TEXT value:

6.1.2 Gas Phase Species

Gas phase species included in the stratospheric heterogeneous chemistry scheme.

Spec. ID: cmip6.atmoschem.stratospheric_heterogeneous_chemistry.gas_phase_species

Is Required ? FALSE

Select value(s):

☒ Cly

☒ Bry

☒ NOy

6.1.3 Aerosol Species

Aerosol species included in the stratospheric heterogeneous chemistry scheme.

Spec. ID: cmip6.atmoschem.stratospheric_heterogeneous_chemistry.aerosol_species

Is Required ? FALSE

Select value(s):

☐ Sulphate

☒ Polar stratospheric ice

☒ NAT (Nitric acid trihydrate)

☐ NAD (Nitric acid dihydrate)

☐ STS (supercooled ternary solution aerosol particule))

6.1.4 Number Of Steady State Species

The number of steady state species in the stratospheric heterogeneous chemistry scheme.

Spec. ID: cmip6.atmoschem.stratospheric_heterogeneous_chemistry.number_of_steady_state_species

Is Required ? TRUE

Enter INTEGER value: 3

6.1.5 Sedimentation

Is sedimentation is included in the stratospheric heterogeneous chemistry scheme or notxxx?

Spec. ID: cmip6.atmoschem.stratospheric_heterogeneous_chemistry.sedimentation

Is Required ? TRUE

Select value:

☒ True ☐ False

6.1.6 Coagulation

Is coagulation is included in the stratospheric heterogeneous chemistry scheme or notxxx?

Spec. ID: cmip6.atmoschem.stratospheric_heterogeneous_chemistry.coagulation

Is Required ? TRUE

Select value:

☒ True ☐ False

7 Tropospheric Heterogeneous Chemistry

Atmospheric chemistry tropospheric heterogeneous chemistry

7.1 Tropospheric Heterogeneous Chemistry

Atmospheric chemistry tropospheric heterogeneous chemistry

7.1.1 Overview

Overview tropospheric heterogenous atmospheric chemistry

Spec. ID: cmip6.atmoschem.tropospheric_heterogeneous_chemistry.overview

Is Required ? TRUE

Enter TEXT value:

7.1.2 Gas Phase Species

List of gas phase species included in the tropospheric heterogeneous chemistry scheme.

Spec. ID: cmip6.atmoschem.tropospheric_heterogeneous_chemistry.gas_phase_species

Is Required ? FALSE

Enter TEXT value: 3

7.1.3 Aerosol Species

Aerosol species included in the tropospheric heterogeneous chemistry scheme.

Spec. ID: cmip6.atmoschem.tropospheric_heterogeneous_chemistry.aerosol_species

Is Required ? FALSE

Select value(s):

- ☒ Sulphate
- ☐ Nitrate
- ☐ Sea salt
- ☐ Dust
- ☐ Ice
- ☐ Organic
- ☐ Black carbon/soot
- ☐ Polar stratospheric ice
- ☐ Secondary organic aerosols
- ☐ Particulate organic matter

7.1.4 Number Of Steady State Species

The number of steady state species in the tropospheric heterogeneous chemistry scheme.

Spec. ID: cmip6.atmoschem.tropospheric_heterogeneous_chemistry.number_of_steady_state_species

Is Required ? TRUE

Enter INTEGER value:

7.1.5 Interactive Dry Deposition

Is dry deposition interactive (as opposed to prescribed)xxx? Dry deposition describes the dry processes by which gaseous species deposit themselves on solid surfaces thus decreasing their concentration in the air.

Spec. ID: cmip6.atmoschem.tropospheric_heterogeneous_chemistry.interactive_dry_deposition

Is Required ? TRUE

Select value:

☐ True ☐ False

7.1.6 Coagulation

Is coagulation is included in the tropospheric heterogeneous chemistry scheme or notxxx?

Spec. ID: cmip6.atmoschem.tropospheric_heterogeneous_chemistry.coagulation

Is Required ? TRUE

Select value:

☒ True ☐ False

8 Photo Chemistry

Atmospheric chemistry photo chemistry

8.1 Photo Chemistry

Atmospheric chemistry photo chemistry

8.1.1 Overview

Overview atmospheric photo chemistry

Spec. ID: cmip6.atmoschem.photo_chemistry.overview

Is Required ? TRUE

Enter TEXT value:

8.1.2 Number Of Reactions

The number of reactions in the photo-chemistry scheme.

Spec. ID: cmip6.atmoschem.photo_chemistry.number_of_reactions

Is Required ? TRUE

Enter INTEGER value: 39

8.2 Photolysis

Photolysis scheme

8.2.1 Method

Photolysis scheme

Spec. ID: cmip6.atmoschem.photo_chemistry.photolysis.method

Is Required ? TRUE

Select value:

☐ Offline (clear sky)

☒ Offline (with clouds)

☐ Online

8.2.2 Environmental Conditions

Describe any environmental conditions taken into account by the photolysis scheme (e.g. whether pressure- and temperature-sensitive cross-sections and quantum yields in the photolysis calculations are modified to reflect the modelled conditions.)

Spec. ID: cmip6.atmoschem.photo_chemistry.photolysis.environmental_conditions

Is Required ? FALSE

Enter TEXT value: