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% Platform for Atmospheric Chemistry and Transport in 1D

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% One dimensional model to calculate atmospheric chemistry & vertical transport

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% Developed by:

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close all;

clear all;

% set up path, add mechanism and model toolbox to the matlab path

model\_path = pwd;

addpath('./mechanism')

addpath('./model\_toolbox')

% use the paramaters created by kpp

mech\_Parameters;

% read input text file

read\_input\_text\_file

% do the model initialization, read all input files, set up arrays

%script located in the model\_toolbox

initialize\_model;

%setup model times

Times = datestr(datenum\_chem,'yyyy-mm-dd\_HH:MM:SS');

% open netcdf output files

open\_netcdf\_output(model\_path, NLEV, NTIM\_CHEM, Times, BOX\_WALL,...

BOXCH, spec, spec\_fixed, rates, VT, depo, timeStrLen,...

temperature, pressure, relative\_humidity, rate\_constants, ...

emissions, addemissions, surface\_source\_emissions, add\_surface\_source\_HONO,...

output\_file\_comment, output\_file\_created\_by);

% main time loop for integrating chemistry & writing model output

[spec, spec\_fixed, rates, VT, rate\_constants] = ...

integrate\_model(model\_path,NTIM\_CHEM,NLEV,dt\_chem,dt\_kpp,Times,...

temperature,pressure,relative\_humidity,jrates,spec,spec\_fixed,emissions,surface\_source\_emissions,rates,VT,BOX\_WALL,BOXCH,Kz,...

rate\_constants, run\_chem, run\_vert\_diff, addemissions, diffusion\_constant, K\_het, Eff\_dep\_surf, n\_step\_diff,...

depo,total\_loss\_to\_ground, timeStrLen, add\_surface\_source\_HONO, soil\_emi\_NO);

disp(['Model run complete!']);

return

% end one dimensional model