



Exercise 2

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Team-up with someone who has a Linux laptop and get the source (Joakim, Brian, Allan)

0D version of NWP-Chem7 day forecast at (45N,0E), near surface.

Concentrations are in ppb; vary initial conditions.

Compile with e.g. -i8 -r8

Output: Hour, H₂SO₄ (ppb), SO₂(ppb)

Use e.g. gnuplot for plotting the text files

1. Compile the 0D NWP-Chem version on your laptop and execute
2. Plot the SO₄²⁻ and H₂SO₄ concentration vs. time in the same plot. Explain
3. Vary T through some relevant interval and plot
4. Vary P through some relevant interval and plot
5. Vary humidity through some relevant interval and plot
6. Vary cloud cover and plot
7. A 0D model may overestimate sensitivity, why ?
8. May the aerosol indirect effects induce changes in any of the above parameters ? Which in particular
9. Based on the above suggest a physical path through which the aerosol indirect effects may affect the aerosol distribution

