

ADAS900 SERIES TUTORIAL

- Explore central ADAS900 directories on /home/sccp/gttm/FG300612/dev_adas/madas/
- The data file is inside ../madas/
- The executables are on ../bin/, To run them be sure that you are on your own directory and then type '/home/sccp/gttm/FG300612/dev_adas/madas/bin/<adas9xx.out>'. The input file must be in your working directory.
- copy directory /home/sccp/gttm/FG300612/DEMO to your own directory.
- Input files are inside ../DEMO/inputs/
- Explanation of input files are inside ../DEMO/tutorial/

Exercises:

1. Create input902.dat and run adas902.out with the specific settings that you'd like. Think what are the mdf02 files you would like to include in the calculations. Remember that the states you keep in the mdf02 file are the ones which will be conserved through the whole sequence.
2. Explore the output file. Identify the metastables selected on the input 902.
3. Create the itaus.dat to obtain the maxwellian time constants from mdf33. Use IDL to produce graphical plot from the output files (you will find an example of IDL program in the tutorial/ directory)
4. Create input903.dat and run adas903.out. Explore mdf04.pass.
5. Create input904.dat and run adas904.out. Look at the mdf11 files. Why are the DXCD values null? Look at the table 1 to know what type of terms are written on the mdf11 files
6. Create the new type of itaus.dat to output your desired effective coefficients. Plot them using IDL.
7. Create ipop.dat to read the populations. Plot them using IDL.

Quantity	Description
MQCD	Molecular excitation CR coefficient
MSCD	Molecular ionization CR coefficient.
MACD	Molecular recombination CR coefficient.
MXCD	Molecular cross coupling (through ionization) CR coefficient.
PDCD	Partial (from a molecular specie) dissociation CR coefficient.
PXDCD	Partial (from a molecular specie) cross-coupling (through recombination) dissociation CR coefficient.
PXSDCD	Partial (from a molecular specie) double cross-coupling (through molecular recombination and atomic ionization) dissociation CR coefficient.
DXCD	Partial cross-coupling (through atomic ionisation) dissociation CR coefficient.
SCD	Atomic ionization CR coefficient.
ACD	Atomic recombination CR coefficient.
QCD	Atomic excitation CR coefficient.
XCD	Atomic cross-coupling (through ionization) CR coefficient.

Table 1: Description of collisional-radiative terms