Atmlab – a set of Matlab functions

Patrick Eriksson

What can you find in Atmlab?

- Various general functions

  - such as vec2col and optargs

- Set of functions

  - time formats, interface to GMT, Mie, H_2O, ...

- Some small "systems"

  - qinfo, OEM, gformat, atmlab

- Qarts: interface to ARTS

- Qpack2: retrieval environment

Atmlab settings

- Information about existing settings:

    >> help atmlab

- To display present settings

    >> atmlab;

- To e.g. set path to arts:

    >> atmlab('ARTS_PATH', '~patrick/arts/src/arts');

- Simplest to put settings in atmlab_conf.m

    - Launched at start-up, if found

Qarts

- An interface to ARTS (v2)

- A structure, Q, holds all settings/data

- Functions for different tasks:

    >> y = arts_y(Q) ;

    >> A = arts_abstable(Q);

- Q has a fixed set of fields

    - Initialisation: >> Q = qarts;

    - Sets all field to {}, that flags undefined

    - Far from all fields must be defined

    - ARTS' include feature can be used (Q can almost be "empty")

Documentation by qinfo

- To list all fields, with their description

    >> qinfo(@qarts);

- Documentation for a specific field:

    >> qinfo(@qarts, 'F_BACKEND');

- Wildcards allowed:

    >> qinfo(@qarts, 'ABS*');

- Other functions following qinfo

    - oem.m, qp2_y

Practical usage of Qarts

- See examples in atmlab/demos
  - qarts_demo.m
  - qarts_demo2.m
  - qarts_scattering_demo.m
  - qarts_abstable_demo.m