Summary of past 12 months

Martin O'Mullane and Hugh Summers

Overview of ADAS code and data changes since 2009 release

► ADAS visits in last 12 months.

► Re-visiting existing data.

► Policy on adding data to ADAS.

► What to look forward to in the v3.1 release.

► Release will roll-out 1 November

ADAS visits

ADAS visits to:

- ► Hugh has visited U. Wisconsin at Madison, PPPL, Harvard-Smithsonain and MIT.

- ► Martin has visited Auburn University and NFRI Korea.

ADAS-EU visits:

- ► Fran has visited CEA, Ciemat and Mons.

- ► Hugh has visited Vienna, Mons, Belfast, Vilnius and Jülich.

- ► Martin has visited Mons and ITER.

Re-visiting ADAS data

► Fundamental data improves with time.

► Derived ADAS data is not always in synch.

► GCR data for Si being prepared by Alessandra.

► Boron GCR fundamental data is awaiting processing.

► Metastable splitting of ionisation now as ADAS routine.

► Existing light elements will be revised in this release.

► Documentation also requires care and attention — thanks to Adam.

► Ephrem has discovered a long standing error in stopping coefficients — manuscript ready for submission.

► He has also identified newer (and different) H ionisation rates — will be added as a new set of *adf21* and *adf22* coefficients.

Policy on adding data

▶ Data should only be added to ADAS if there is a use/need for it

▶ The use of the data need not be immediate.

▶ Not popularity based — if one person wants some data we should strive to include it.

▶ eg CHIANTI data added for Si, Mg and Fe — other elements on request.

▶ Should automatic production methods be exempted?

- Iso-electronic data is useful.
- But should we include elements with no known terrestrial or extra-terrestrial importance?

▶ A reading routine must be available and the new data should be read without errors.

▶ Older, non-conforming data is being steadily fixed or removed.

▶ QA is most effective when the data matters to someone.

Code additions

► Rationalize offline ADAS codes

- Ability to move these to large machines is crucial.
- Retain as self-contained with no IDL dependency.
- Remove duplication with online codes — adas701 (Autostructure), adas801 (Cowan).
- Change build system to ensure the offline codes run on each site.

► Usual set of bug fixes — the bugs are becoming more esoteric.

► Make available miscellaneous ADAS routines — may not fit into interactive system, eg.

- New fortran routine to calculate electron excitation in impact parameters.
- New IDL routine to split LS terms according to rules of Condon and Shortley.

Current size of database

The ADAS database continues to grow:

adf00 : 872K	adf14 : 200K	adf28 : 28M
adf01 : 2.5M	adf15 : 104M	adf32 : 968K
adf02 : 404K	adf16 : 48K	adf34 : 1.3M
adf03 : 468K	adf17 : 433M	adf35 : 2.3M
adf04 : 4.1G	adf18 : 2.4M	adf37 : 48K
adf05 : 960K	adf19 : 164K	adf38 : 40M
adf06 : 136K	adf20 : 75M	adf39 : 69M
adf07 : 1.2M	adf21 : 3.1M	adf40 : 251M
adf08 : 1.5M	adf22 : 5.5M	adf42 : 24K
adf09 : 1.2G	adf23 : 2.4M	adf48 : 205M
adf10 : 8.3M	adf24 : 96K	adf49 : 60K
adf11 : 65M	adf25 : 776K	adf54 : 116K
adf12 : 2.0M	adf26 : 197M	adf56 : 72K
adf13 : 36M	adf27 : 72M	adf60 : 226M

6.8Gb of data in total!

ADAS and the wider world of atomic collections

▶ OPEN-ADAS progressing well — steady stream of new users

▶ Denis Humbert has added ADAS as a GENIE source.

▶ ADAS data (just C for now) is served as ITM CPO.

▶ Stopping data now in NUBEAM-TRANSP.

▶ The Auburn high quality data keeps flowing — mid-Z tungsten added.

▶ State selective CX data from UAM.

Other news

- ADAS-EU 18 month report submitted
  — progress reports at `www.adas-fusion.eu/progress.php`.

- Luis appointed at IPP Garching.

- Fran will move to CEA Cadarache in January.

- Chris and Alessandra will submit their theses imminently.

- Stuart Henderson starts his Phd today.

Where do we gather next time?

The workshops of 2011 and 2012 will take place in

- ► Either Auburn University or University of Madison

- ► CEA Cadarache

or vice-versa!