

Enhancements to the easyJIVE web-driven post-processor tool

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1 Introduction

The web-based post-correlation software described in [1] has been in use since the beginning of 2007. This document outlines the extensions and adjustments made to both the web tool itself and the underlying post-processing tools it relies on.

Most of the changes simply correspond to updates in the standard postprocessing tools and environment; the two substantial changes are the changes in the interface to the “standard plots” task to give users more control over the choice of scan and station used for the plots and administrative tools, which are invisible to end-users and used to clean-up the database easyJIVE uses behind the scenes.

2 Interface and workflow changes

- “DDD” was moved from the computer juw26 to juw36 and both easyJIVE and `getdata.pl` were changed to reflect this.
- Hyperlinks to weight plots were added to experiment summary pages, to assist support scientists in choosing scans to post-process (as shown in Figures 1 and 2).
- Two new glish scripts, `fix2bocf` and `fixUVW`, both written by Bob Campbell, were added in December 2006. We quote from Dr Campbell’s email for the explanations of their purposes:

`fix2bocf` corrects the times in the measurement set for the 2-correlator-frame offset that has always seemed to have been inherent in the time-stamps coming out of the correlator. It determines the BOCF separately for each job in the MS by checking in the output vexfile.

`fixUVW` replaces the UVWs in the MS with those determined from the UVW polynomials provided by CALC (essentially equivalent to how `plyflg` uses the delay polynomials to identify/flag the DR 0 events, except here there’s no event-testing/flagging).

- Subsequently a new version of `j2ms2` made `fix2bocf` unnecessary and it was removed from the pipeline.
- The glish script `fixFBS` (written by Bob Campbell), which implements fractional bit shifts, was added to the pipeline, and (in the second half of 2007) replaced by a new version in C++ (by Des Small).

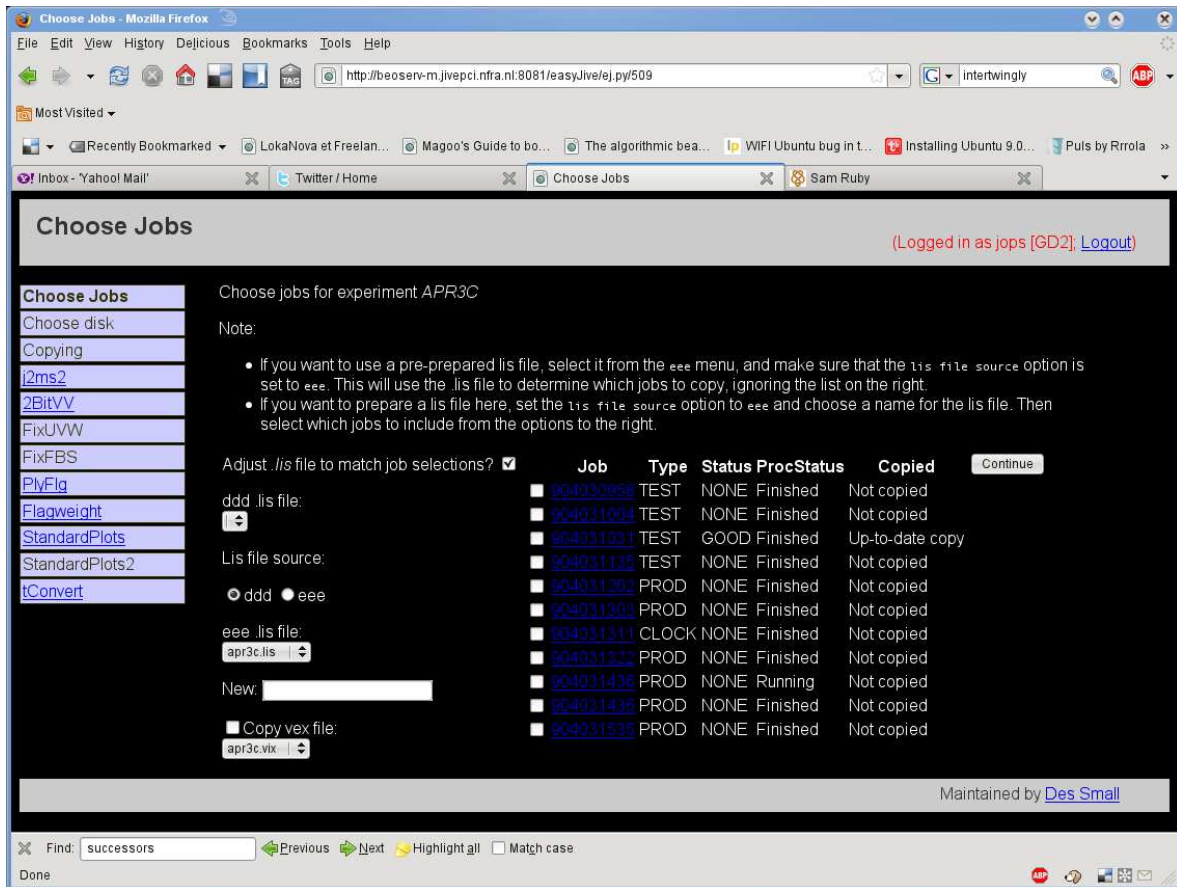


Figure 1: Updated job-choice page, with hyperlinks to weight plots.

- StandardPlots was split into two tasks within easyJIVE to allow users to choose a reference antenna and source (as shown in Figure 2, and the standardplots program itself was extended to allow a choice of scan to plot. A bug in the cross-plots of amplitude was also fixed.
- The program tConvert added at the end of the pipeline to convert data to IDI FITS format for use with the AIPS analysis tool.

3 Administrative tools

The easyJIVE processing engine deals with the stateless nature of CGI sessions by storing its current state in a database at each step. By design, states are reusable so that the web browser's back button works in the way users expect, but this means that individual states persist indefinitely unless they are removed by an administrator later.

To facilitate this an administrative interface for managing the database of states was written and is hosted at <http://beoserv-m.jivepci.nfra.nl:8081/easyJive/dbi.py>. A policy of expiring states could easily be added if required, but the database is very compact and it has not yet been felt necessary.

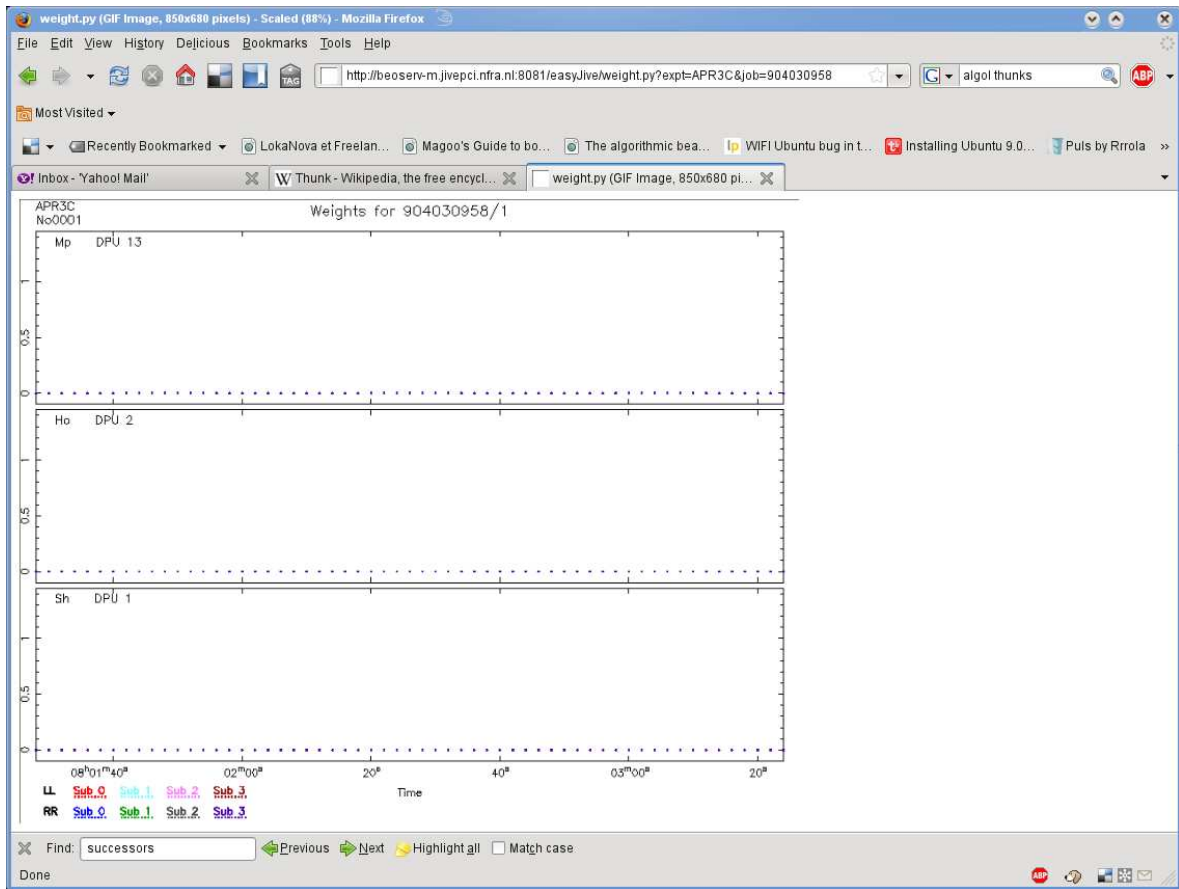


Figure 2: The weight plot for a job displayed in the browser.

References

- [1] Small, D. *A Web-based front end for post-correlation data processing*, January 2007; available at http://www.jive.nl/~jive_cc/sin/sin7.pdf

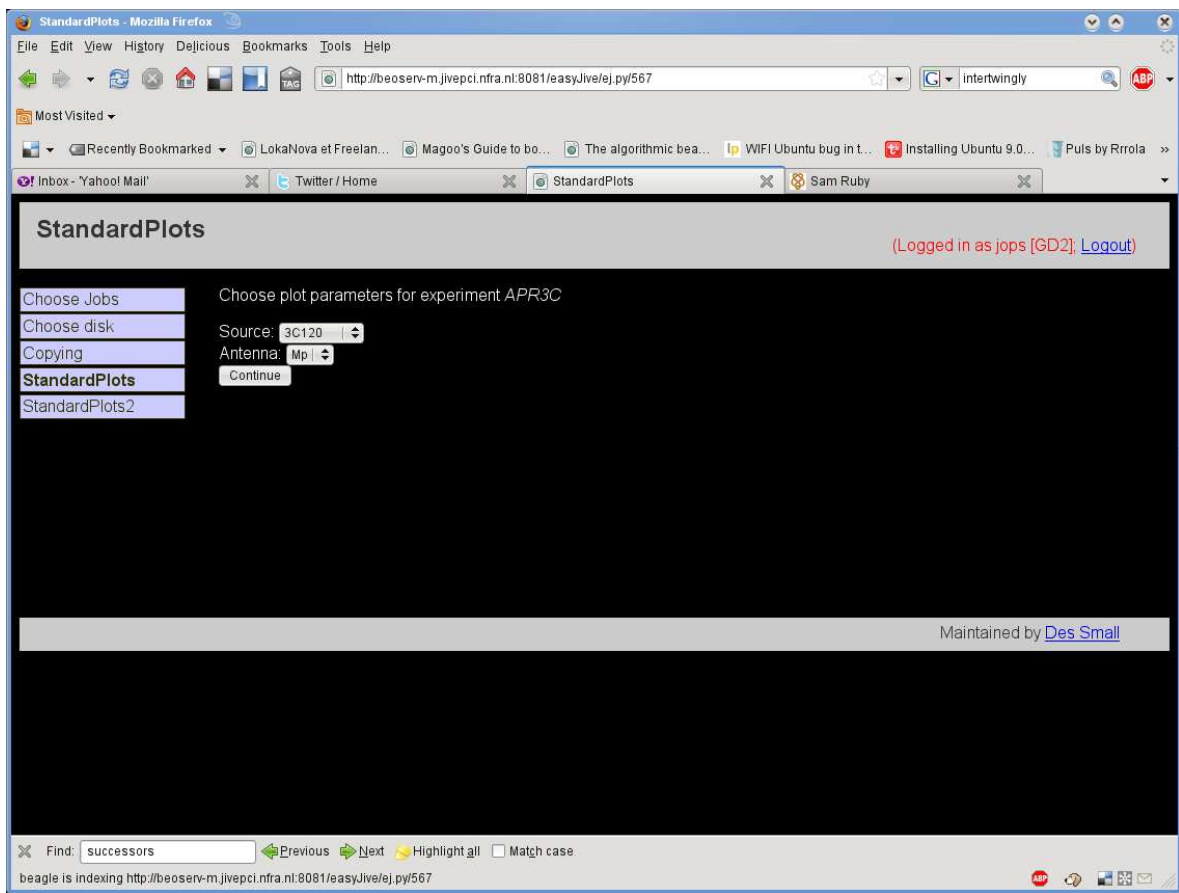


Figure 3: The new interface to standardplots