

**AVO** Project Meeting

11-12 December, 2003

ESO, Garching



SpeXter

*On-the-fly* Spectra eXtraction

# Motivation



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The **usefulness** of current large astronomical archives are **limited** by the fact that **users have to visually inspect and pre-select spectroscopic data**. This makes it difficult for archive researchers to identify specific observations which might be of interest to them. Within the context of the AVO, this fundamental limitation should be remedied.

The aXe spectral extraction tool will be a **starting point for an AVO spectral pre-viewer and data selection tool**. This method was already successfully applied to both HST's ACS slitless spectroscopy data and to VLT's FORS2 multi-object slit spectroscopy.

It **provides non-optimal but quick and robust bulk extraction and full calibration of spectra** which can be used to browse the spectral content of a dataset stored in an archive. Such a capability will be a first, yet fundamental step towards successfully using spectroscopic data within the AVO.

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Mar. 20, 2003

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Requirements

Analysis

Samples

Open items

Links

Specter

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# Requirements



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- Java ( $\geq 1.4.1\_01$ )
- Python ( $\geq 2.2.1$ ) + scientific libraries
- Sextractor
- IRAF
- Specview

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# Analysis Flow



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- Retrieve data from archive
  - *ACS*
    - Split multi-extension fits
    - SExtractor
  - *FORS2*
    - Retrieve (master) bias
    - Patch header (only few images)
- aXe: extract set of 1-D spectra

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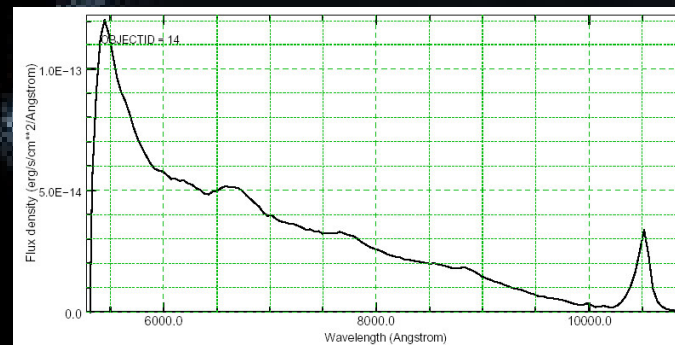
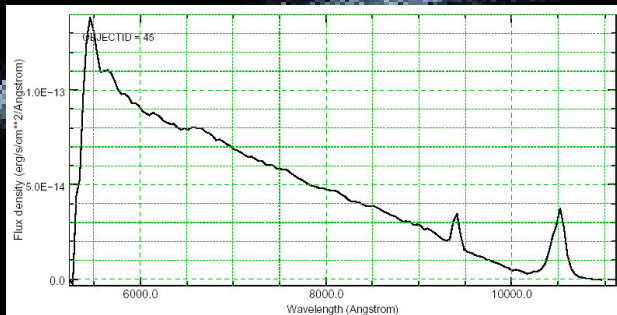
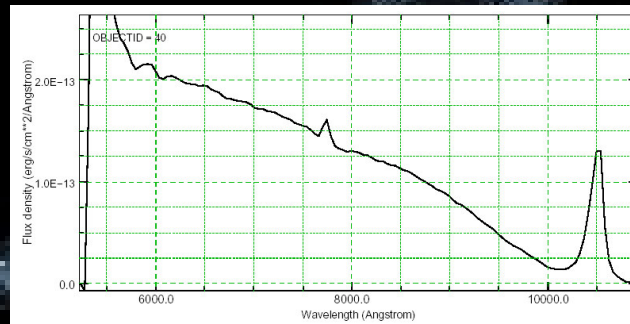
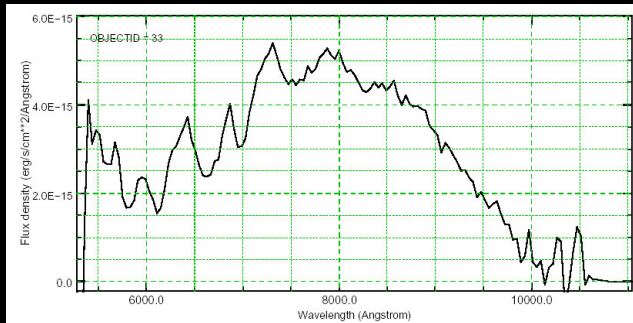
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# Sample Spectra



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j8hp9kfwq sc. ext. 1 (= chip 1)



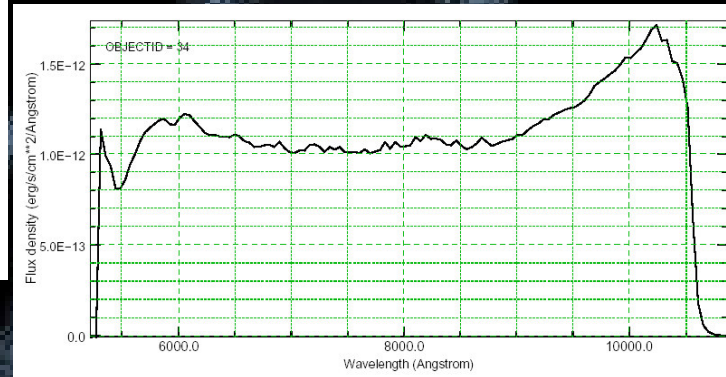
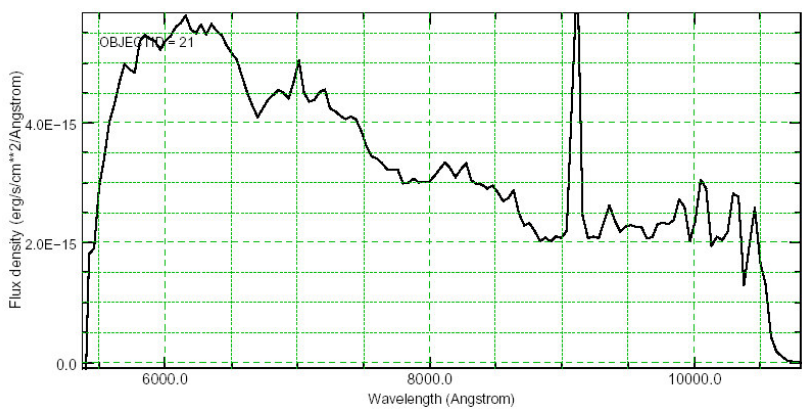
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# Samples [contd]

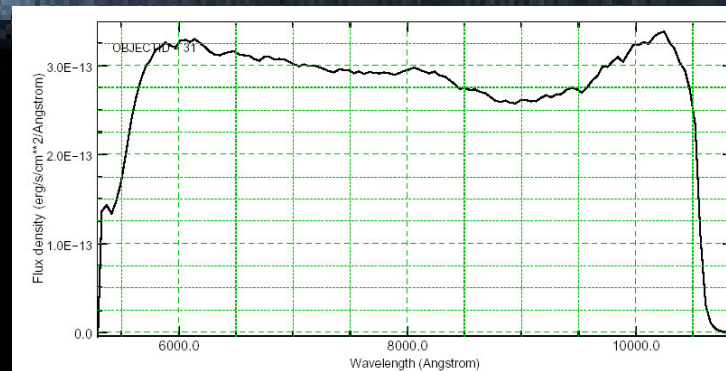
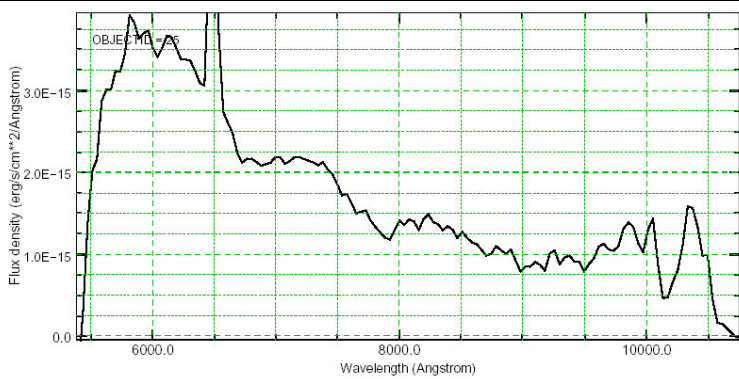


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j8hp9kfwq sc. ext. 4 (=chip 2)



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# Open Items



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- Background subtraction (ground-based instruments)
- Configuration files tuning (SExtractor, aXe)
- ...

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# More info



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## SpeXter page on euro-vo TWiki

- <http://www.euro-vo.org/twiki/bin/view/SpeXter>

## aXe

- <http://www.stecf.org/software/aXe/>

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