

# BCS introduction

Getting access to full text astronomical articles.

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25th September 2023



AMERICAN  
ASTRONOMICAL  
SOCIETY






# □ 1. BCS



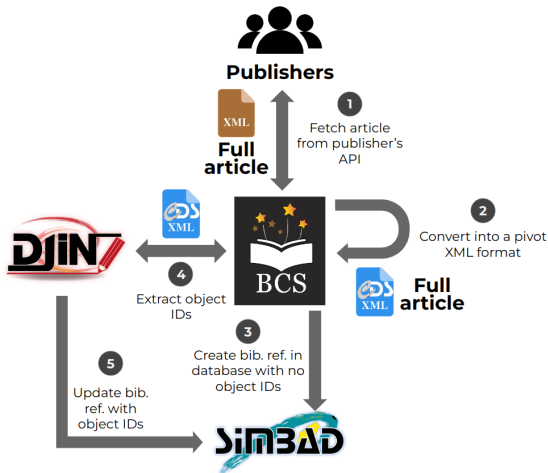
**Bibliographic Center Supervisor (CDS  
internal service)**

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1. Get complete articles from astronomical journals
  - download articles (*ideally in XML*)
  - convert them into an internal XML format: *XCDS*

---
2. Give access to:
  - articles description 
  - full text articles 
  - tables (*mainly, MRT*) 

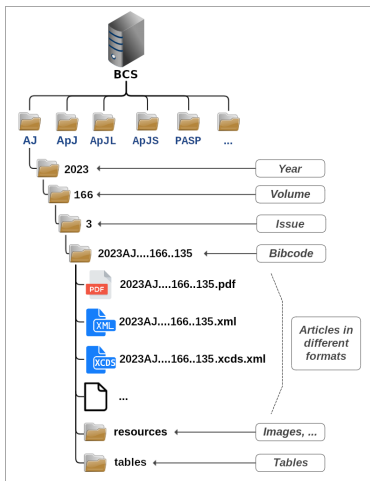
## 2. How does it work?



(cf LISA IX: *Poster, Video, Article*)

# 3. In practice

## Article organization



## Ingestion management

BCS

AJ

Metrics Listing Tasks (0) 1. Fetch 2. Import ReadMe

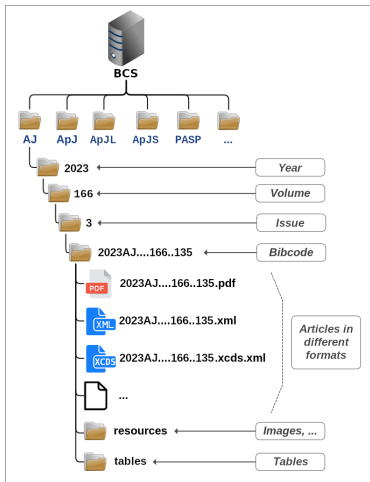
166\_3 Import - ended 13d ago (in 3m 7s)  
SUCCESS 55/55 articles imported

166\_2 Import - ended 13d ago (in 2m 16s)  
SUCCESS 42/42 articles imported

166\_6 Import - ended 92d ago (in 4m 25s)  
SUCCESS 51/51 articles imported

# 3. In practice

## Article organization



## Ingestion management

Metrics Listing Tasks (0) Fetch 1. Fetch 2. Import ReadMe

Volume/Issue to import  
166.3 Import to SMOAD Check authors Purfile saved

Volume: 166 # articles: 55  
Issue: 3 # errata: 3  
Fetched: 1/6/2023 4:29:06 PM # new authors: 2 (in 539 authors)

New authors Purfile MaJ

2023AJ....166..815 (pdf) (xml) (xcds)

File: /J203/166/2023AJ....166..81/2023AJ....166..81.xml  
Page: 81  
Nb pages: 20  
DOI: 10.3847/1538-3881/acc943  
ISSN: 1538-3881  
Copyright: © 2023. The Author(s). Published by the American Astronomical Society.  
Date: 2023-09-09  
Authors: SALTZER, J.J., CARR, D.J., SESEN, J., BRUNKER, S.W., HIRSCHAUER, A.S.

Title: The Star Formation Across Cosmic Time (SFACT) Survey. I. Survey Description and Early Results from a New Narrowband Emission-line Galaxy Survey.  
Abstract: We introduce the Star Formation Across Cosmic Time (SFACT) survey. SFACT is a new narrowband survey for emission-line galaxies (ELGs) and QSOs being carried out using the wide-field imager on the WHT 3.5 m telescope. Because of the superior depth and excellent image quality afforded by WHT, we routinely detect ELGs to  $z \approx 2.0$ . Our survey observations are made using three custom narrowband filters centered on 6150 Å, 6550 Å, and 7460 Å. Due to the sensitivity of the survey, we are able to simultaneously detect sources via a number of different emission lines over a wide range of redshifts. The principal lines detected in SFACT are H $\alpha$  (redshifts up to 0.146), [O III]5007 (redshifts up to 0.500), and [O II]3727 (redshifts up to 1.015). In this paper, we detail the properties of the survey as well as present initial results obtained by analyzing our three pilot study fields. These fields have yielded a total of 533 ELG candidates in an area of 1.56 deg<sup>2</sup> (surface density of 555 ELGs/deg<sup>2</sup>). Follow-up spectra for a subset of the ELG candidates are also presented. One of the key attributes of the SFACT survey is that the ELGs are detected in discrete redshift windows that will allow us to robustly quantify the properties of the star-forming and active galactic nucleus populations as a function of redshift to  $z = 1$  and beyond. The planned acquisition of additional narrowband filters will allow us to expand our survey to substantially higher redshifts.  
Keywords: Emission-line galaxies

# 4. XCDS Version


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title="Creative Commons Attribution 4.0 licence">Creative Commons Attribution 4.0 licence</a>. Any further distribution of this
work must maintain attribution to the author(s) and the title of the work, journal citation and DOI.</p>
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HD 142527 B" (<a href="https://doi.org/10.3847/1538-3881/ac73f4" title="2022, AJ, 164, 1">2022, AJ, 164, 1</a>)</title>
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<!-- AUTHORS -->
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<author>
<firstname>William O.</firstname>
<lastname>Balmer</lastname>
<idno type="ORCID">0000-0001-6396-8439</idno>
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# 5. HTML Rendering

2023AJ....166..135B AJ, volume 166, article 135, pages 1-4 published on the 01<sup>st</sup> of September 2023 by The American Astronomical Society, doi:10.3847/1538-3881/accd06

ERRATUM for doi:10.3847/1538-3881/ac73f4  

## Erratum: “Improved Orbital Constraints and H $\alpha$ Photometric Monitoring of the Directly Imaged Protoplanet Analog HD 142527 B” (2022, AJ, 164, 1)

Balmer William O.  , Follette Katherine B.  , Close Laird M.  , Males Jared R.  , De Rosa Robert J.    
, Adams Redai Jéa I.  , Watson Alex , Weinberger Alycia J.  , Morzinski Katie M.  , Morales Julio   ... (2 more authors)

► Affiliations...

Keywords:

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[2. Mutual Inclination Update](#)  
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This erratum corrects two errors in the published article (Balmer et al. 2022). First, we implement two corrections to our published photometry. We improved our data reduction pipeline for photometric extraction and calculation of the H $\alpha$  luminosity of the companion, both of which now follow the procedure described in detail in Follette et al. (2023). The updated photometric calibration and BKA model fitting results in astrometry that is identical to that reported in Balmer et al. (2022) to within uncertainties, so we do not repeat the orbital analysis here. We do, however make a small correction that arose from a numerical error in the calculation of the mutual inclination angle between the binary orbit and the inner and outer disk planes.

Neither correction results in a change to the main conclusion of the paper, namely the orbital solution for HD 142527 B. The evidence for a near perpendicular orientation for the binary relative to both disk planes remains strong. The updated photometry, which manifests primarily in an increase in photometric uncertainty does, however, cast into doubt the tentative claim made in the original article of photometric (and therefore accretion rate) variability in the excess H $\alpha$  emission of HD 142527 B.

### 1. Updated Photometry

In Balmer et al. (2022), we normalized the input point-spread function (PSF) when conducting PSF forward modeling, but did not also normalize the data cube that would be starlight subtracted. This resulted in a PSF model without a fixed contrast relative to the star, a result of temporal variability in the PSF. In Follette et al. (2023) this normalization was implemented, and here we present corrected photometry for HD 142527 B.

Additionally, in the original article we used the formula,

$$(1) \quad I_{H\alpha} = 4\pi d^2 z \Delta\lambda \times 10^{(R_{mag} + \Delta R)/-2.5},$$

# □ 6. Technical requirements 1/2

- **Currently:**
  - the BCS daily fetches from an FTP server an archive containing all articles updated the day before for all journals
- **Problems:**
  - Issues sometimes incomplete (*though they are marked as complete on the website*)
  - No easy access to old articles
    - Need to keep all updated articles on our server
    - Ask IOP for missing/old articles
- **Ideal solution:**
  - a Web service/API to ask for specific articles, issues and volumes (*as the STACKS did in the past*)



## 6. Technical requirements 2/2

- **Additional problem:**

- *Errors in author names* (e.g. switched firstname and lastname, part of the firstname inside the lastname)

```
author      | JANARDHAN P.  
lastname   | P.  
firstname  | Janardhan  
orcid      | 0000-0003-2504-2576
```

- *Wrong ORCID* (i.e. not the one of the author)

```
orcid      | 0000-0002-0786-7307  
authors   | BARRO G.,KELLY P.L.,LU L.-Z.,  
          | SCHWARZ G.J.,WILLIAMS T.G.,WU H.
```

## □ 7. Good points

- Usage of a standard XML schema (i.e. JATS) to format articles in XML
- Good communication with the IOP team
  - quick answers in case of problem (e.g. missing articles)
  - always get notifications in case of change on their side