

Modernisation de l'interface Web de Simbad



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Stage du 08 avril au 21 juin 2019



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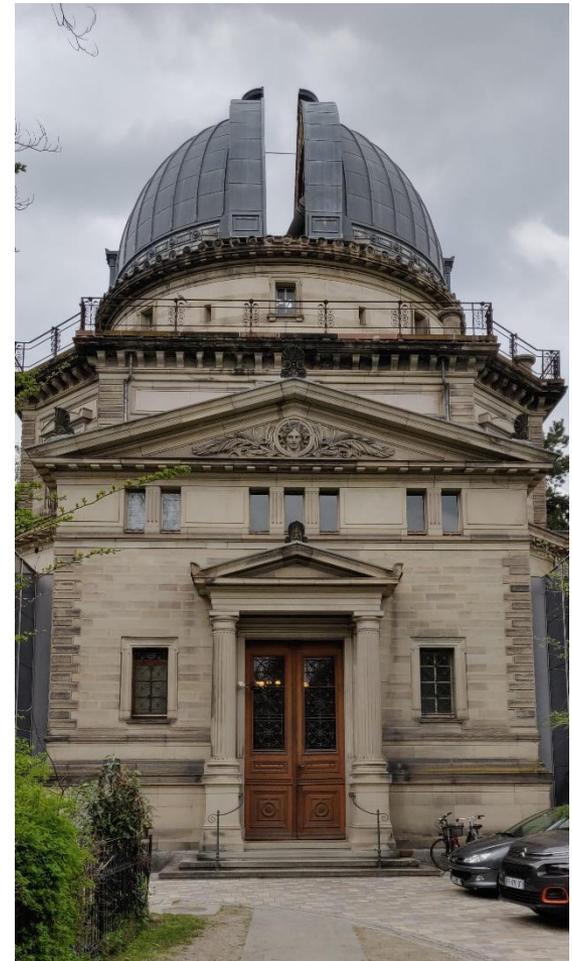


☐ Sommaire

- Présentation de l'organisme
- La mission
- Les réalisations
- Conclusion

□ Présentation de l'organisme

- Fondé en 1881
- 3 bâtiments
- 2 équipes (GALHECOS et le CDS)
- Unité mixte du CNRS et de l'Unistra



Le Centre de Données Astronomiques de Strasbourg

- Traiter et redistribuer des données astronomiques
- Trois profils :



Développeurs

Créent des programmes pour les bases de données

Documentalistes

Enrichissent les bases de données

Astronomes

Supervisent l'évolution du contenu

□ Les différents services



1972

Catalogue d'objets astronomiques cités dans des publications scientifiques

10 millions d'objets
500 000 requêtes /jour

1992

Collection de catalogues et tables publiés dans les journaux astronomiques

18 700 catalogues

1999

Visualiser et manipuler des images en différents formats astronomiques

250 To d'images

□ La Mission

« **Modernisation de l'interface utilisateur (web) du service de données astronomiques Simbad pour la rendre responsive** »

M31

other query Identifier Coordinate Criteria Reference Basic Script TAP Output Help
 modes : query query query query query submission options

C.D.S. - SIMBAD4 rel 1.7 - 2019.06.17CEST10:19:15

Available data : Basic data • Identifiers • Plot & images • Bibliography • Measurements • External archives • Notes • Annotations

Basic data :
M 31 -- Galaxy
 Other object types: LIN (), G (Ref, LEDA, ...), QSO (Ref, [VV2006], ...), AGN ([VV2006c], [VV2003c], ...), Rad (2C, DA, ...), IR (IRAS, IRC, ...), X (2MASX, XSS), gam (2FGL, 3FGL), dIC (GIN), G16 (K75)

ICRS coord. (ep= $J2000$): 00 42 44.330 +41 16 07.50 (Infrared) [] C 2006AJ...131.11635
 FK4 coord. (ep= $B1950$ eq= 1950): 00 40 00.092 +40 59 41.73 []
 Gal coord. (ep= $J2000$): 121.174322 -21.573311 []
 Radial velocity / Redshift / cz: V(km/s) -300.0 [4.0] / z(spectroscopic) -0.001000 [0.000013] / cz -299.85 [4.00]
 C 2012AJ...144...48

Morphological type: SA(s)b D 2013AJ...146...67B
 Angular size (arcmin): 199.53 70.79 35 (Opt) D 2003ABA...412...45P
 Fluxes (6): U 4.86 [0.03] D 2007ApJS...173...185G
 B 4.36 [0.02] D 2007ApJS...173...185G
 V 3.44 [0.03] D 2007ApJS...173...185G
 J 2.094 [0.016] C 2006AJ...131.11635
 H 1.283 [0.017] C 2006AJ...131.11635
 K 0.384 [0.017] C 2006AJ...131.11635

notes: • See GALEX UV data in GALEX data

Hierarchy : number of linked objects
 whatever the membership probability is (see description here) :

parents : 3 children : 11080 siblings : 102 Display criteria : All

Identifiers (32):
 An access of full data is available using the icon VizieR near the identifier of the catalogue

M 31	IRC 48013	NAME And Nebula	Z 0040.0+4100
2C 56	R75 1C	NAME Andromeda Nebula	[DSHS] 4
DA 21	LEDA 2557	NGC 224	[DR1c] 004000.1+405943
2FGL J0042.5+4114	2MASX J00424433+4116074	RAFGL 104	[VV2006c] J004244.3+411610
3FGL J0042.5+4117	2MASX J0043+412	UGC 454	[VV2003c] J004244.3+411610
GIN 801	MCG+07-02-016	UGC J004244.3+411608	[VV2006] J004244.3+411610
IRAS F00400+4059	NAME Andromeda	XSS J00425+4102	[VV2010] J004244.3+411610
IRAS 00400+4059	NAME Andromeda Galaxy	Z 535-17	[VVRc] J004245.1+411622

□ Le choix du Framework

Bootstrap



Search by identifier, coordinates (radius=10 arcmin)

Search

What can Simbad do ?

The SIMBAD astronomical database provides basic data, cross-identifications, bibliography and measurements for astronomical objects outside the solar system.

SIMBAD can be queried by object name, coordinates and various criteria. Lists of objects and scripts can be submitted.

Links to some other on-line services are also provided.

Foundation



Identifier, coordinates (radius=10 arcmin), or bibcode

Change Radius

Search

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Skeleton



Identifier, coordinates (radius=10 arcmin), or bibcode

SEARCH

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Materialize



Identifier, coordinates (radius=10 arcmin)

SEARCH >

▼ QUERY AROUND

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□ Le choix du Framework

	Skeleton	Materialize	Foundation	Bootstrap
Poids du Framework	22 ko	886 ko	1,7 Mo	3,6 Mo
Ressources chargées par le navigateur	73 ko	325 ko	525 ko	936 ko

□ Les technologies utilisées



Materialize
CSS



ChartJS



HTML
CSS
Javascript



Aladin Lite



GitLab

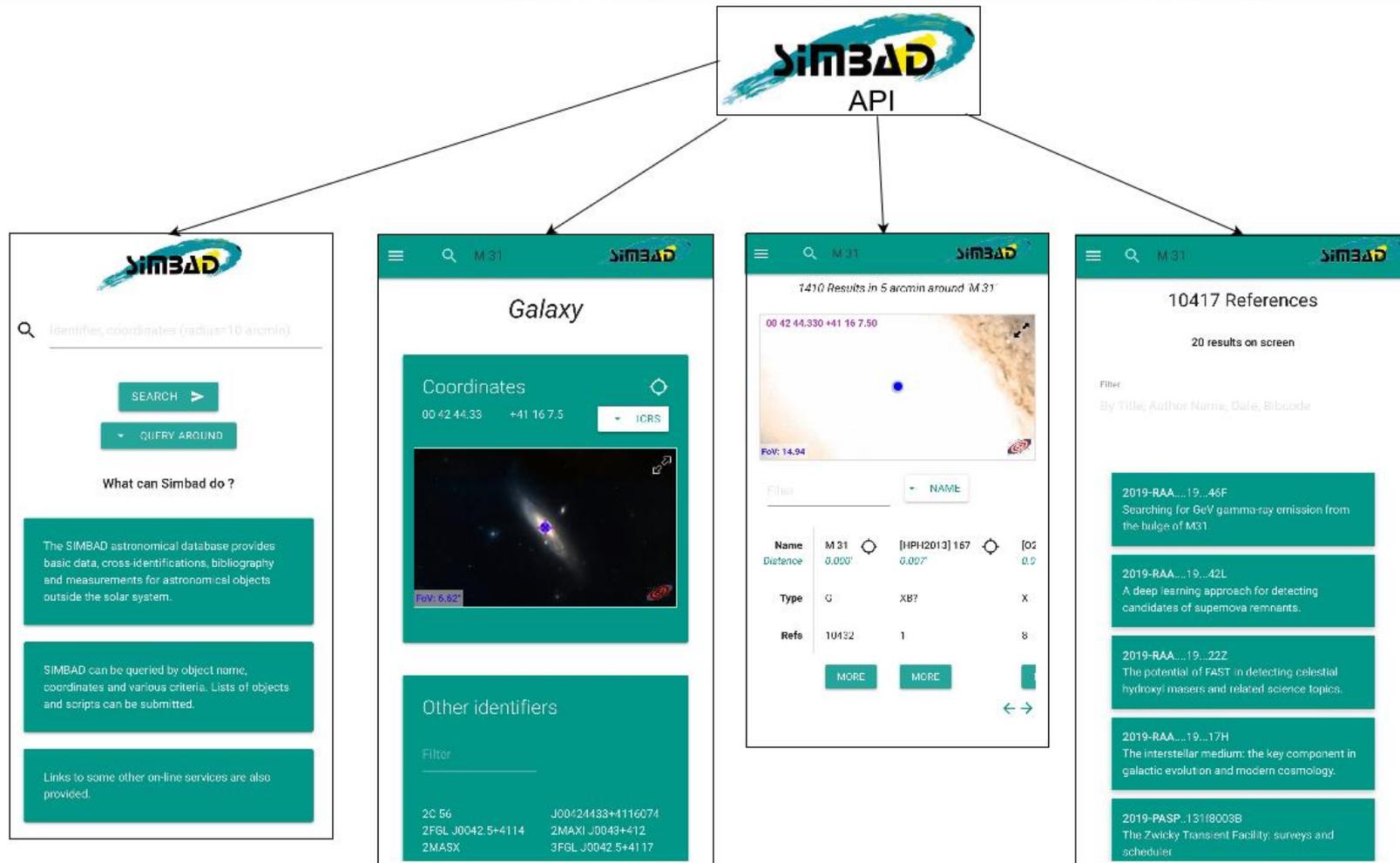


Visual
Studio
Code



Google
Chrome

□ L'architecture du site

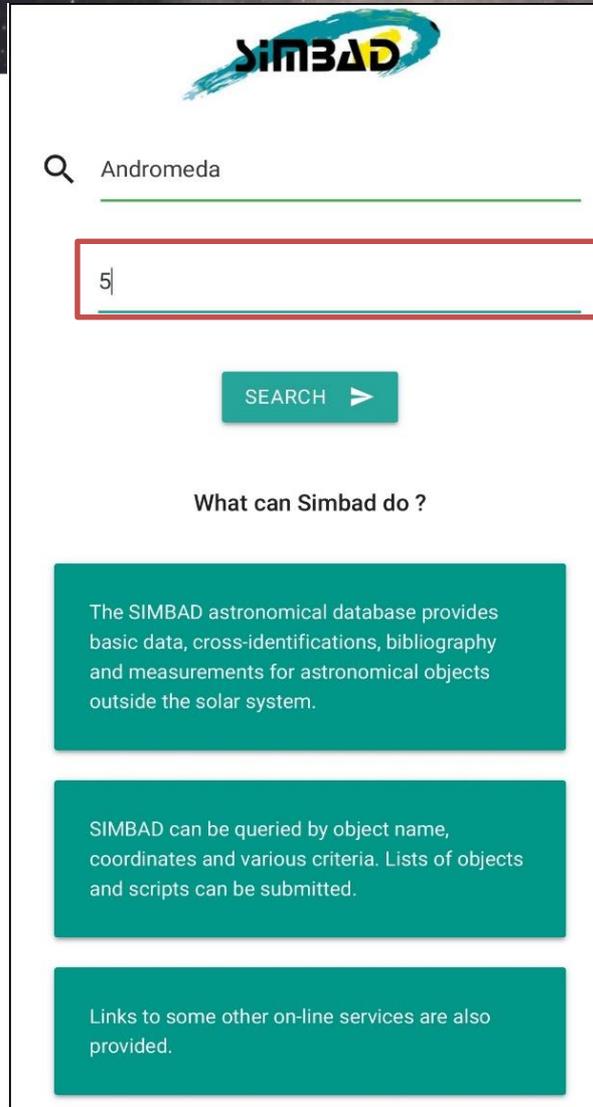


□ L'API

- API Web
- Renvoi des données :
 - D'un objet si le nom est donné
 - De plusieurs objets si les coordonnées et un rayon sont indiqués

```
[{
  "coo_bibcode": "2006AJ....131.1163S",
  "coo_qual": "C",
  "dec": 41.2687500000000004,
  "dim_angle": 35,
  "dim_bibcode": "2003A&A...412...45P",
  "dim_majaxis": 199.52999877929688,
  "dim_minaxis": 70.79000091552734,
  "dim_qual": "D",
  "dim_wavelg": "O",
  "idlist": [
    "2C 56",
    "2FGL J0042.5+4114",
    "2MASX J00424433+4116074",
    "[VV2010] J004244.3+411610",
    "[VV98c] J004245.1+411622"
  ],
  "mainId": "M 31",
  "mt_bibcode": "2013AJ....146...67B",
  "mt_bin": "2D800904",
  "mt_qual": "D",
  "mtype": "SA(s)b ",
  "nbrefs": 10415,
  "oid": 1575544,
  "otype": "G ",
  "otype_num": "15.00.00.00",
  "ra": 10.684708333333333,
  "radvel": -300,
  "redshift": 1.0E308,
  "rvz_bibcode": "2012AJ....144....4M",
  "rvz_err": 4,
  "rvz_qual": "C",
  "rvz_type": "v"
}]
```

□ Page d'accueil



SIMBAD

Q Andromeda

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SEARCH >

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Possibilité de rechercher par nom ou coordonnées

Rayon de recherche

Rechercher autour d'un objet

□ Page détaillée d'un objet

Nom de l'objet



Type

Galaxy

Coordonnées

Coordinates 

00 42 44.33 +41 16 7.5 



FoV: 6.62° 

Vue Aladin Lite

Other identifiers

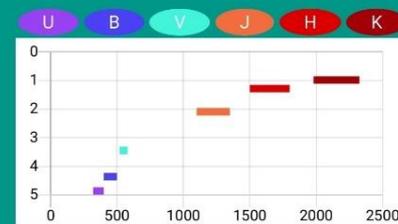
Filter

2C 56	J00424433+4116074
2FGL J0042.5+4114	2MAXI J0043+412
2MASX	3FGL J0042.5+4117

▼ MORE

Identifiants de l'objet

Magnitudes



Magnitudes

Other information

Morphological type: SA(s)b
Radial Velocity: -300 km/s

Informations diverses

BIBLIOGRAPHY

AROUND

Page de résultats multiples

Mobile

12 Results in 5 arcmin around 'Ngc1233'

03 12 33.107 +39 19 8.17
FoV: 14.94'

Filter NAME

Name	NGC 1233	SN 2017f	SN
Distance	0.000'	0.137'	0.4
Type	GIG	SN?	SN
Refs	39	1	5

MORE MORE

Tablette

12 Results in 5 arcmin around 'Ngc1233'

03 12 33.107 +39 19 8.17
FoV: 14.98'

Filter NAME

Name	Type	Refs	
NGC 1233 0.000'	GIG	39	MORE
SN 2017f 0.137'	SN?	1	MORE
SN 2009lj 0.452'	SN*	5	MORE
2MASS J03124675+3920227 2.917'	RG*	2	MORE

□ Page des références



M 31



20 results on screen

Filter

By Title, Author Name, Date, Bibcode

2019-RAA....19...46F

Searching for GeV gamma-ray emission from the bulge of M31.

2019-RAA....19...42L

A deep learning approach for detecting candidates of supernova remnants.

LIU W. / ZHU M. / DAI C. / WANG B.-Y. /

OBJECTS

2019-RAA....19...22Z

The potential of FAST in detecting celestial hydroxyl masers and related science topics.

2019-RAA....19...17H

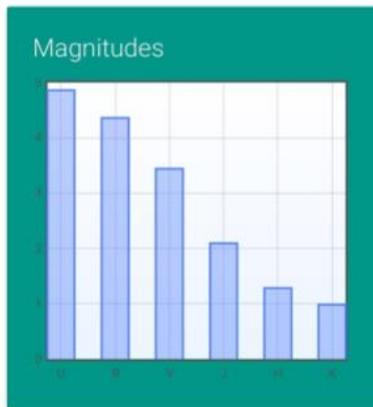
The interstellar medium: the key component in galactic evolution and modern cosmology.

2019-PASP..131f8003B

The Zwicky Transient Facility: surveys and

□ Difficultés rencontrées

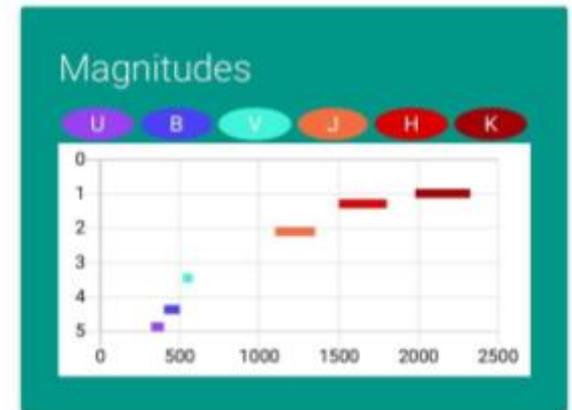
- Sélection des informations affichées
- Support de différents matériels et différentes tailles
- Entrer dans le contexte astronomique
- Graphique des magnitudes :



Première version du graphique avec FlotJs



Première version avec ChartJs



Version finale du graphique



Conclusion

Avant

The screenshot shows the SIMBAD database entry for M31. It includes a navigation bar with options like 'Identify', 'Coordinates', 'Credits', 'References', 'Basic queries', 'Script submission', 'TAP', 'Output options', and 'Help'. The main content area is titled 'M31 -- Galaxy' and provides detailed information:

- Other object types:** ICM (1, 4, 104, 114, ...), AN (1, 20, 200, 201, ...), AN (1, 20, 200, 201, ...), AN (1, 20, 200, 201, ...)
- ICM coord. (ep=J2000):** RA 00 42 44.336, Dec +41 16 07.56
- PKA coord. (ep=J2000):** RA 00 42 44.336, Dec +41 16 07.56
- Gal coord. (ep=J2000):** RA 00 42 44.336, Dec +41 16 07.56
- RAJ2000 (l, b):** 00 42 44.336, 41 16 07.56
- Morphological type:** SA(rs)cd
- Angular size (arcmin):** 10.5 x 7.0
- Fluxes (J):** J 14.4, H 13.8, K 13.2

 Below this, there are sections for 'Hierarchy', 'Identifiers (32)', 'Plots and Images', 'References (10432 between 1850 and 2019)', 'Collections of Measurements', 'Observing logs', and 'External archives'.

23/06/2019



Schaeffer Quentin

Après

The screenshot shows the SIMBAD mobile interface for M31. It features a green header with the SIMBAD logo and a search bar containing 'M 31'. The main content area is titled 'Galaxy' and displays:

- Coordinates:** 00 42 44.33, +41 16 7.5
- ICRS:** A dropdown menu showing 'ICRS'.
- Image:** A large image of the galaxy M31 with a field of view (FoV) of 6.62 degrees.
- Other identifiers:** A list of identifiers including 2C 56, 2FGL J0042.5+4114, 2MASX, J00424433+4116074, 2MAXI J0043+412, and 3FGL J0042.5+4117.

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□ Conclusion

- Site en cours de test en interne
- Pistes envisagées:
 - arrêter l'utilisation du Framework
 - Migrer la version « bureau » vers un design similaire

Apports pour l'observatoire

- Site Web optimisé mobile
- Premier pas vers la modernisation de Simbad

Apports personnels

- Renforcement de mes connaissances en Web
- Découverte du monde du travail

□ Remerciements

- Grégory MANTELET
- Anaïs OBERTO
- André SCHAAFF
- Nicolas LACHICHE
- Pierre-Alain DUC
- Mark ALLEN

□ Pour Tester

<http://simtest.u-strasbg.fr/Files/simbad-mobile/>

