База данных метанольных мазеров I класса: современное состояние и перспективы

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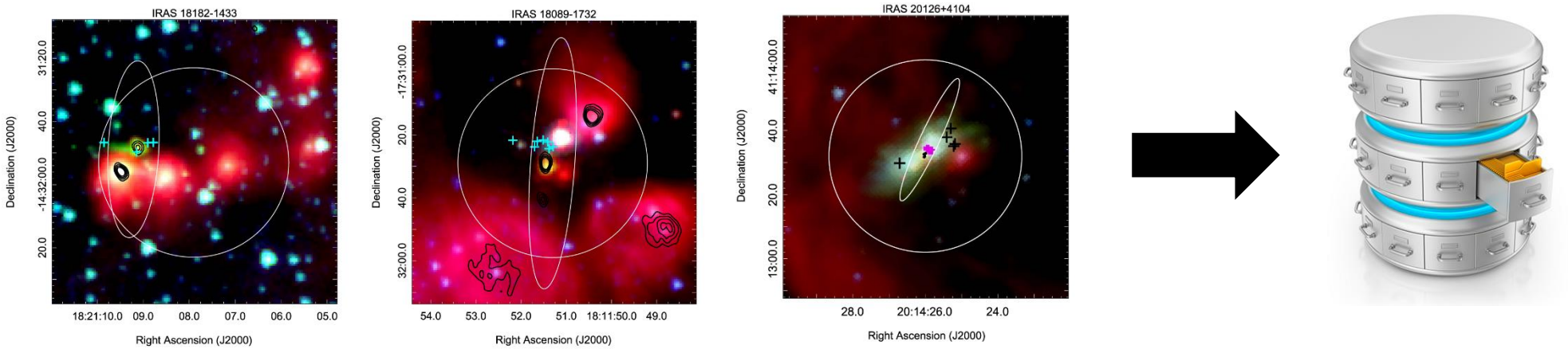
Научная проблема

- Данные по мазерному излучению метанола I класса в настоящее время не собраны в одном месте
- Имеющиеся работы исследуют не все известные мазерные источники
- Вопрос – как искать известные мазеры и исследовать статистику регистраций по всем известным источникам?
- Выход – **создание базы данных мазерных источников**



Актуальность работы

- В настоящее время идет быстрое развитие исследований метанольных мазеров I класса
  - ✓ Наблюдательная база значительно расширяется
  - ✓ Появляются новые теоретические расчёты
- Пример – на симпозиуме IAUS 336: Astrophysical Masers: Unlocking the Mysteries of the Universe
  - ✓ представлено **10 (!) докладов**, посвященных этим объектам
  - ✓ Из них 2 – приглашенных доклада

✓При планировании наблюдений на интеферометрах (ALMA, VLA) необходимо знать о прежних опубликованных регистрациях мазеров в исследуемых источниках.

Новейшие обзоры мазеров I класса

- ✓ На телескопе Mopra (Австралия) в рамках проекта MALT-45 в 2015 году был произведён «слепой» обзор южного неба на 7 мм (см. Jordan et al., 2015), в том числе в линии метанола I класса на 44 ГГц. Было зарегистрировано 77 мазерных источников, в том числе 58 новых
- ✓ В северном небе на 13.7-метровом телескопе обсерватории Пурпурной горы (Китай) был произведён поиск метанольных мазеров I класса в направлении на ~1000 молекулярных сгустков (см. Yang et al., 2017). В результате было обнаружено 205 источников с мазерным излучением.

Все эти работы являются свидетельством того, что наблюдения метанольных мазеров в настоящий момент актуальны и регулярно проводятся для исследования областей звёздообразования

Какие работы уже есть по данной теме

- Работы по созданию каталога метанольных мазеров I класса велись группой Вальтц и др. (см. работу Bayandina et al., 2012).
  - ✓ В этой работе представлен каталог из 206 объектов, полученный по работам до 2011 года включительно
  - ✓ Участник прежней научной группы АКЦ ФИАН Ольга Баяндина в настоящий момент работает в нашем проекте.
- Данные о областях звёздообразования, в том числе о метанольных мазерах, была ранее проведена Аведисовой (см. работу Avedisova, 2002).
  - ✓ Собраны работы до 2001 года включительно

✓В нашем проекте мы используем все имеющиеся наработки для создания общего каталога мазеров I класса по работам до 2018 года включительо

Цель работы

- Глобальная цель Проекта – **создание наиболее полной и актуальной базы данных метанольных мазеров I класса**. В рамках настоящего Проекта будут поставлены следующие задачи:

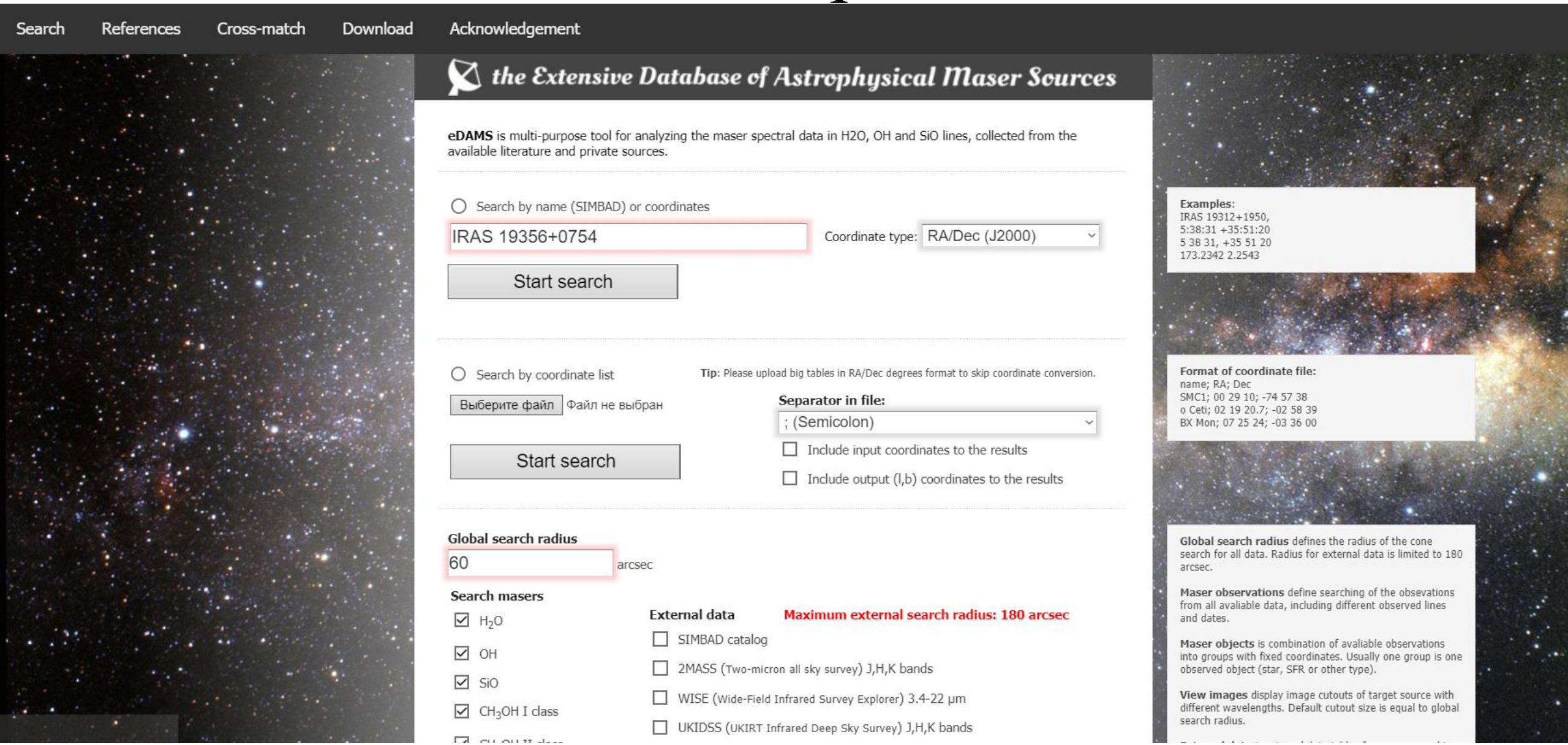
1. Сбор оцифрованных данных мазерного излучения по большому количеству имеющейся литературы.
2. Предоставление эффективного доступа к базе данных в режиме онлайн, в том числе обеспечение анализа данных с помощью интерактивной информационной системы.
3. Поддержание полноты данных, в том числе возможность добавления новых данных по мере их выхода.
4. Статистический анализ накопленных данных и использование базы данных для научных исследований.

Имеющийся научный задел

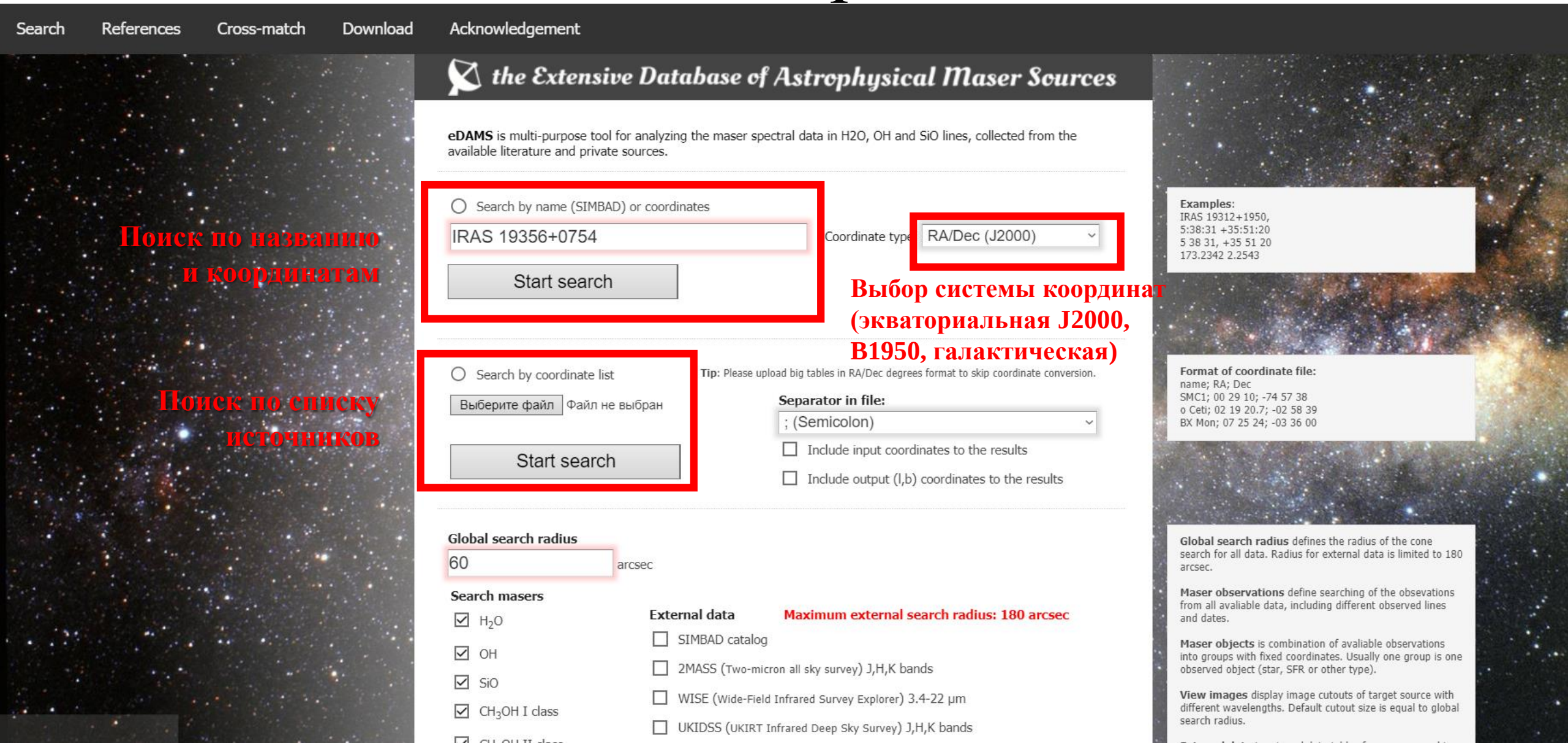
- База данных мазеров в проэволюционировавших звёздах (мазерные линии молекул H2O, OH и SiO) уже работает
  - См. работу **Nakashima et al., 2018**, The Extensive Database of Astrophysical Maser Sources (eDAMS): the First Release on Circumstellar Maser Sources, Astrophysical Masers: Unlocking the Mysteries of the Universe, Proceedings of the International Astronomical Union, IAU Symposium, Volume 336, pp. 395-396 (доступна в ADS)
- Принята к печати статья по исследованию проэволюционировавших звёзд с помощью данной базы данных
  - **Sobolev et al., 2018**, Database of Molecular Masers and Variable Stars, Accepted for publication in RAA (доступна в arXiv)

Описание созданной базы данных

Главная страница



Главная страница



Поиск по названию и координатам

Поиск по списку источников

Выбор системы координат (экваториальная J2000, B1950, галактическая)

Главная страница

Global search radius

60 arcsec

Search masers

- [x] H_2O
- [x] OH
- [x] SiO
- [x] CH_3OH I class
- [x] CH_3OH II class
- [x] All masers cross-match

Search mode:

Observations

Select all / deselect all

View images

- [x] DSS (optical)
- [x] 2MASS (JHK)
- [x] WISE (4-22 um)
- [ ] IRAC (3-8 um)
- [ ] GLIMPSE 360 (3.6-4.5 um)
- [ ] PACS color (70-160 um)
- [ ] SPIRE color (250-500 um)
- [ ] AKARI color (60-160 um)
- [ ] NVSS (1.4 GHz)
- [ ] SDSS (optical+NIR)

Select all / deselect all

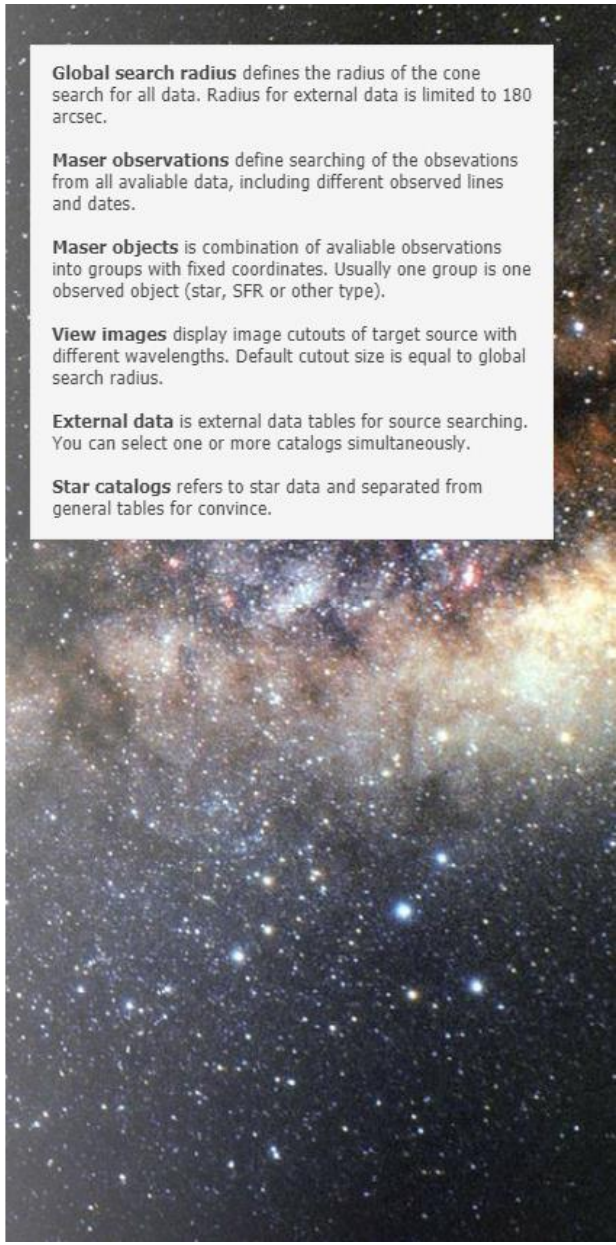
External data **Maximum external search radius: 180 arcsec**

- [ ] SIMBAD catalog
- [ ] 2MASS (Two-micron all sky survey) J,H,K bands
- [ ] WISE (Wide-Field Infrared Survey Explorer) 3.4-22 μm
- [ ] UKIDSS (UKIRT Infrared Deep Sky Survey) J,H,K bands
- [ ] IRAS (Infrared radio astronomy satellite) 12-100 μm
- [ ] GLIMPSE I,II,3D (Galactic Legacy Infrared Midplane Survey Extraordinaire) 3.6-8 μm
- [ ] GLIMPSE Extended Green Objects catalog (Cyganowski+, 2008) NEW
- [ ] AKARI 9-160 μm
- [ ] MSX (Midcourse Space Experiment) 4.3-21.3 μm
- [ ] BOLOCAM Galactic Plane Survey Catalog 40-120 μm
- [ ] ATLASGAL Compact Source Catalog 870 μm

Select all / deselect all

Star catalogs

- [ ] GCVS (General Catalogue of Variable Stars)
- [ ] Gaia data release 2 (Gaia DR2)
- [ ] Torun catalog of post-AGB and related objects (Szczerba+, 2007)
- [ ] Henry Draper (HD) Catalogue and Extension
- [ ] The HST Guide Star Catalog, Version 1.2
- [ ] The Full GSC2.2.1 Catalogue



Global search radius defines the radius of the cone search for all data. Radius for external data is limited to 180 arcsec.

Maser observations define searching of the obsevations from all avaliable data, including different observed lines and dates.

Maser objects is combination of avaliable observations into groups with fixed coordinates. Usually one group is one observed object (star, SFR or other type).

View images display image cutouts of target source with different wavelengths. Default cutout size is equal to global search radius.

External data is external data tables for source searching. You can select one or more catalogs simultaneously.

Star catalogs refers to star data and separated from general tables for convince.

Главная страница

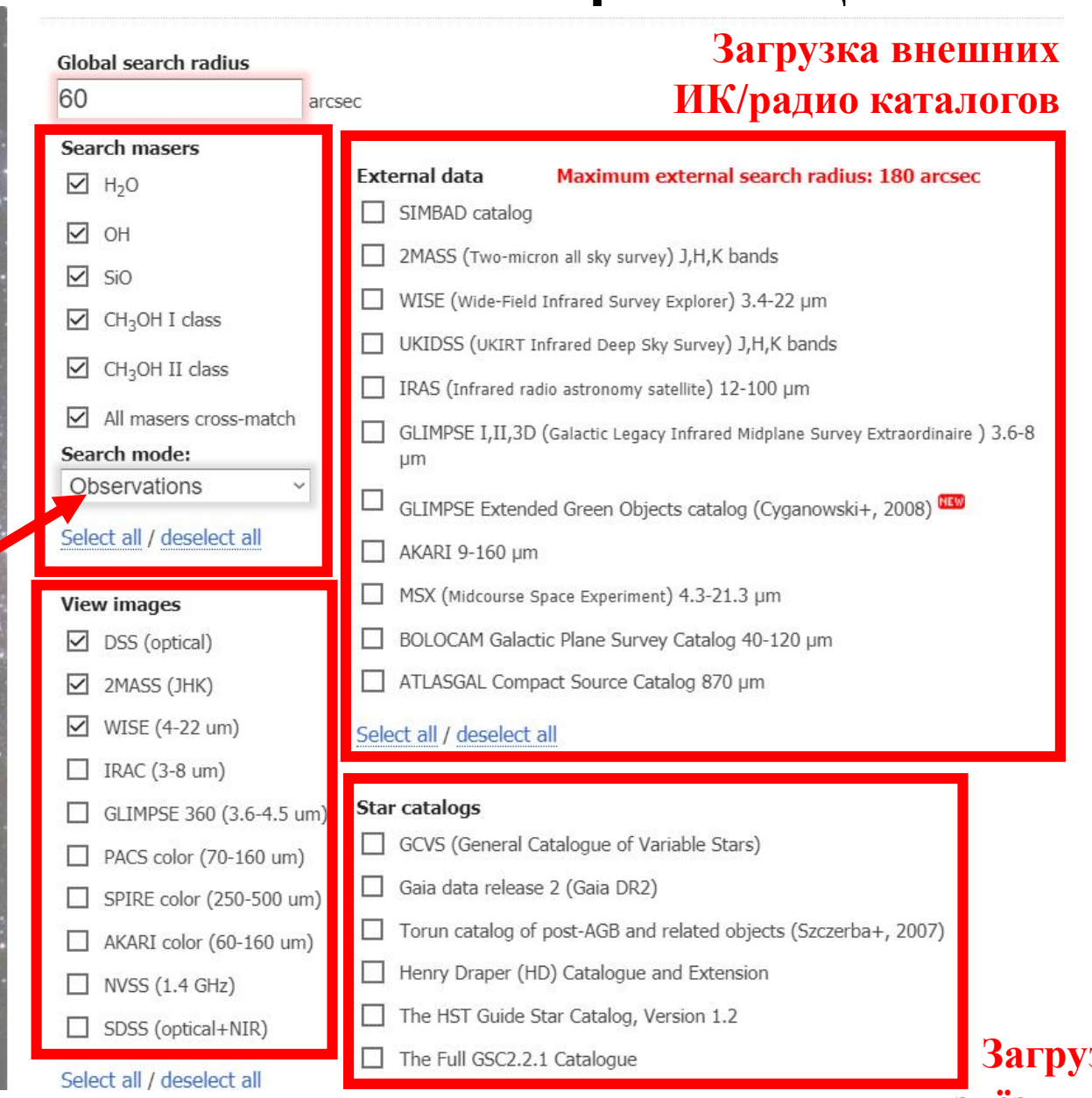
Выбор типа мазерного излучения для поиска

Режим поиска (наблюдения/объекты)

Просмотр изображений в различных длинах волн

Загрузка внешних ИК/радио каталогов

Загрузка внешних звёздных каталогов



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Результаты поиска

the Extensive Database of Astrophysical Maser Sources

Search results

Display search results.

Input source name: iras 19312+1950
Input source coordinates: 19h 33m 24s, +19° 56' 58" (J2000) View in pop-up
Input source coordinates: 55.372078, 0.184956 (galactic)
Input source coordinates: 19h 35m 36s, +20° 3' 40" (1950)
Search radius: 60 arcsec

We found **7** detection of H_2O, **6** detection of OH, **9** detection of SiO, **6** detection and **11** non-detection of CH3OH I, **0** detections of CH3OH II in maser database.
We found **1** object of All types in maser database.
We found **14** WISE, **1** IRAS, **40** GLIMPSE, **1** AKARI sources in external databases.

Search results for object iras 19312+1950 within 60 arcsec

Go to H2O maser observations (7); OH maser observations (6); SiO maser observation (9); CH3OH (I class) maser observation (17); CH3OH (II class) maser observation (0); All maser objects (1); WISE (14); IRAS (1); GLIMPSE (40); AKARI (1);

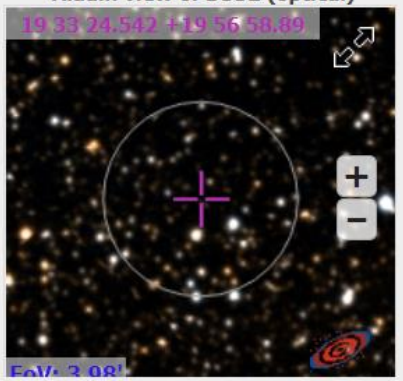
H_2O maser observations Export to csv Match radius: 60 arcsec

id	Group	Name	Detection	RA_{J2000}	Dec_{J2000}	AngDist	F_{peak}	V_{peak}	V_{low}	V_{up}	V_{range}	RMS	Date	Ref	List	ASCII	Image
				h m s	d m s	arcsec	Jy	km/s	km/s	km/s	km/s	Jy					
1	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.3	+19 56 55	5.2	7.246	35.6				0.087	2001-02-10	DEG04C			
2	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.3	+19 56 55	5.2	18.558	16.3	16.3	50.8	34.5	0.904	2002-12-16	DEG04C			
3	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.2	+19 56 55	6.2		17.4					2000-05-30	NAK00	ENG_H2O		
4	55.4+0.19	19312+1950	Yes	19 33 24.2	+19 56 55	6.2	7.251	17.4				0.192	2000-06-01	NAK03B	ENG_H2O		
5	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.2	+19 56 55	6.2	12.993	33.3				0.176	2004-05-10	NAK07	ENG_H2O		
6	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.3	+19 56 55	5.2	2.11	17.3				0.701		YUN13			
7	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.3	+19 56 55	5.2	2.44	17.3	14.4	23.9	9.5	0.060		YUN14			

OH maser observations Export to csv Match radius: 60 arcsec

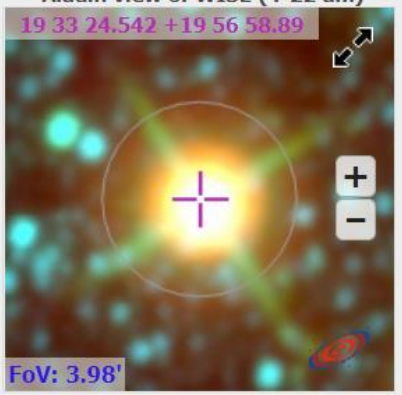
id	Group	Name	Detection	RA_{J2000}	Dec_{J2000}	AngDist	Freq	Type	F_{peak}	V_{peak}	V_{peak2}	V_{range}	RMS	Date	Ref	List	ASCII	Image
				h m s	d m s	arcsec	MHz		Jy	km/s	km/s	km/s	Jy					
1	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.3	+19 56 55	5.2	1665	D		10.0	55.0	45.0			DEG04C	ENG15		
2	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.3	+19 56 55	5.2	1667	D		10.0	55.0	45.0			DEG04C	ENG15		
3	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.3	+19 56 55	5.2	1612	D		10.0	55.0	45.0			DEG04C	ENG15		

Aladin view of DSS2 (optical)



Aladin view of 2MASS (near-IR)

Aladin view of WISE (4-22 um)



Результаты поиска

the Extensive Database of Astrophysical Maser Sources

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Display search results.

Input source name: iras 19312+1950
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Input source coordinates: 55.372078, 0.184956 (galactic)
Input source coordinates: 19h 35m 36s, +20° 3' 40" (1950)
Search radius: 60 arcsec

Найденный источник и его координаты

We found **7** detection of H_2O, **6** detection of OH, **9** detection of SiO, **6** detection and **11** non-detection of CH3OH I, **0** detections of CH3OH II in maser database.
We found **1** object of All types in maser database.
We found **14** WISE, **1** IRAS, **40** GLIMPSE, **1** AKARI sources in external databases.

Количество найденных наблюдений мазеров и источников во внешних каталогах

Search results for object iras 19312+1950 within 60 arcsec

Go to H2O maser observations (7); OH maser observations (6); SiO maser observation (9); CH3OH (I class) maser observation (17); CH3OH (II class) maser observation (0); All maser objects (1); WISE (14); IRAS (1); GLIMPSE (40); AKARI (1);

Таблица с найденными наблюдениями мазера H_2O (и др.)

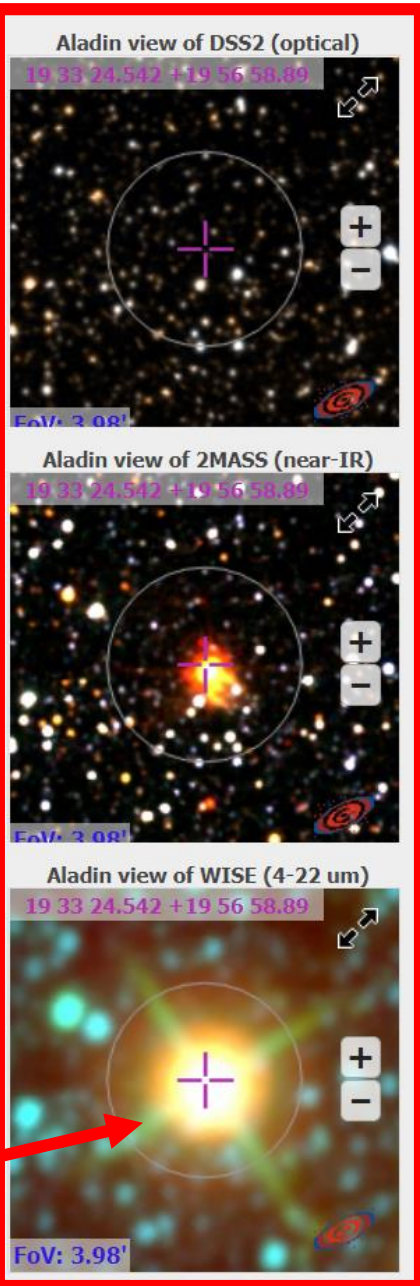
H_2O maser observations Export to csv **Match radius: 60 arcsec**

id	Group	Name	Detection	RA_{J2000}	Dec_{J2000}	AngDist	F_{peak}	V_{peak}	V_{low}	V_{up}	V_{range}	RMS	Date	Ref	List	ASCII	Image
				h m s	d m s	arcsec	Jy	km/s	km/s	km/s	km/s	Jy					
1	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.3	+19 56 55	5.2	7.246	35.6				0.087	2001-02-10	DEG04C			
2	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.3	+19 56 55	5.2	18.558	16.3	16.3	50.8	34.5	0.904	2002-12-16	DEG04C			
3	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.2	+19 56 55	6.2		17.4					2000-05-30	NAK00	ENG_H2O		
4	55.4+0.19	19312+1950	Yes	19 33 24.2	+19 56 55	6.2	7.251	17.4				0.192	2000-06-01	NAK03B	ENG_H2O		
5	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.2	+19 56 55	6.2	12.993	33.3				0.176	2004-05-10	NAK07	ENG_H2O		
6	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.3	+19 56 55	5.2	2.11	17.3				0.701		YUN13			
7	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.3	+19 56 55	5.2	2.44	17.3	14.4	23.9	9.5	0.060		YUN14			

OH maser observations Export to csv **Match radius: 60 arcsec**

id	Group	Name	Detection	RA_{J2000}	Dec_{J2000}	AngDist	Freq	Type	F_{peak}	V_{peak}	V_{peak2}	V_{rang}					
				h m s	d m s	arcsec	MHz		Jy	km/s	km/s	km/s					
1	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.3	+19 56 55	5.2	1665	D		10.0	55.0	45.0			DEG04C	ENG15	
2	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.3	+19 56 55	5.2	1667	D		10.0	55.0	45.0			DEG04C	ENG15	
3	55.4+0.19	IRAS 19312+1950	Yes	19 33 24.3	+19 56 55	5.2	1612	D		10.0	55.0	45.0			DEG04C	ENG15	

Просмотр изображений (по клику на любую строку в таблицах результатов)



Список исходных данных для БД

Individual papers

ID	Ref.	Short title	Data type	Detections	Non-detections	ASCII
		*CH_3OH (I class) individual papers (**interferometry**)*				
1	MCC18	McCarthy et al. (2018)	CH3OH_I	32	0	0
2	JOR17	Jordan et al. (2017)	SiO,CH3OH_I	70	9	0
3	ROD17B	Rodríguez-Garza et al. (2017b)	CH3OH_I	24	30	0
4	TOW17	Towner et al. (2017)	CH3OH_I	12	8	0
5	GOM16	Gomez-Ruiz et al. (2016)	CH3OH_I	29	40	0
6	PIH14	Pihlström et al. (2014)	CH3OH_I			
7	VOR14	Voronkov et al. (2014)	CH3OH_I	142	0	0
8	CHA11	Chambers et al. (2011)	CH3OH_I,CH3OH_II			
9	VOR10B	Voronkov et al. (2010b)	CH3OH_I			
10	CYG09	Cyganowski et al. (2009)	CH3OH_I,CH3OH_II	18	1	0
11	KUR04	Kurtz et al. (2004)	CH3OH_I	37	10	0
12	KOG98	Kogan & Slysh (1998)	CH3OH_I	8	0	0
		*CH_3OH (I class) individual papers (**single-dish**)*				
1	ELL18	Ellingsen et al. (2018)	CH3OH_I,CH3OH_II			
2	LI17	Li et al. (2017)	CH3OH_I	9	0	0
3	YAN17	Yang et al. (2017)	CH3OH_I	1122	807	0
4	CHE16	Chen et al. (2016)	CH3OH_I	14	4	0
5	COT16	Cotton & Yusef-Zadeh (2016)	OH,CH3OH_I	2240	0	0
6	KAN16	Kang et al. (2016)	CH3OH_I	78	0	0
7	JOR15	Jordan et al. (2015)	SiO,CH3OH_I	77	0	0
8	KAN15	Kang et al. (2015)	CH3OH_I	71	52	0
9	NAK15	Nakashima et al. (2015)	CH3OH_I	6	10	0
10	GOM14	Gomez et al. (2014)	CH3OH_I,CH3OH_II	0	80	0
11	LYO14	Lyo et al. (2014)	H2O,CH3OH_I	18	0	0
12	KAN13	Kang et al. (2013)	H2O,CH3OH_I	12	56	0
13	CHE12	Chen et al. (2012)	CH3OH_I	133	151	0
14	CHO12	Choi et al. (2012)	H2O,CH3OH_I	3	19	0
15	DEG12B	Deguchi et al. (2012b)	H2O,SiO,CH3OH_I	1	0	0
16	LIM12	Lim et al. (2012)	H2O,CH3OH_I	51	0	0
17	BAE11	Bae et al. (2011)	H2O,CH3OH_I	38	180	0

Display associated data NEW

- ☐ IRAS source
- ☐ IRAS coordinates (RA, Dec)
- ☐ IRAS flux density (F12,F25,F60,F100)
- ☐ 2MASS source
- ☐ 2MASS coordinates (RA, Dec)
- ☐ 2MASS magnituted (J,H,K)
- ☐ Variable star
- ☐ Variable star parameters
- ☐ Star Formation Region name
- ☐ Star Formation Region parameters
- ☐ WISE source
- ☐ WISE coordinates (RA, Dec)
- ☐ WISE magnitudes (w1, w2, w3, w4)
- ☐ Akari IRC source
- ☐ Akari IRC coordinates (RA, Dec)
- ☐ Akari IRC fluxes (S09, S18)
- ☐ Akari FIS source
- ☐ Akari FIS coordinates (RA, Dec)
- ☐ Akari FIS fluxes (S65, S90, S140, S160)

View images NEW

- ☑ DSS (optical)
- ☑ 2MASS (JHK)
- ☑ WISE (4-22 um)
- ☐ IRAC (3-8 um)
- ☐ GLIMPSE 360 (3.6-4.5 um)
- ☐ PACS color (70-160 um)
- ☐ SPIRE color (250-500 um)
- ☐ AKARI color (60-160 um)
- ☐ NVSS (1.4 GHz)
- ☐ SDSS (optical+NIR)

Image size: 120 arcsec (default is 120 arcsec)

Список исходных данных для БД

Аббревиатуры статей

Сокращённые названия статей

Тип данных, представленный в статье

Число положительных/отрицательных регистраций

Просмотр данных из внешних каталогов вместе с данными статей

Просмотр изображений источников, представленных в статьях

Individual papers

ID	Ref.	Short title	Data type	Detections	Non-detections	ASCII
		*CH_3OH (I class) individual papers (**interferometry**)*				
1	MCC18	McCarthy et al. (2018)	CH3OH_I	32	0	0
2	JOR17	Jordan et al. (2017)	SiO,CH3OH_I	70	9	0
3	ROD17B	Rodríguez-Garza et al. (2017b)	CH3OH_I	24	30	0
4	TOW17	Towner et al. (2017)	CH3OH_I	12	8	0
5	GOM16	Gomez-Ruiz et al. (2016)	CH3OH_I	29	40	0
6	PIH14	Pihlström et al. (2014)	CH3OH_I			
7	VOR14	Voronkov et al. (2014)	CH3OH_I	142	0	0
8	CHA11	Chambers et al. (2011)	CH3OH_I,CH3OH_I			
9	VOR10B	Voronkov et al. (2010b)	CH3OH_I			
10	CYG09	Cyganowski et al. (2009)	CH3OH_I,CH3OH_I	18	1	0
11	KUR04	Kurtz et al. (2004)	CH3OH_I	37	10	0
12	KOG98	Kogan & Slysh (1998)	CH3OH_I	8	0	0
		*CH_3OH (I class) individual papers (**single-dish**)*				
1	ELL18	Ellingsen et al. (2018)	CH3OH_I,CH3OH_II			
2	LI17	Li et al. (2017)	CH3OH_I	9	0	0
3	YAN17	Yang et al. (2017)	CH3OH_I	1122	807	0
4	CHE16	Chen et al. (2016)	CH3OH_I	14	4	0
5	COT16	Cotton & Yusef-Zadeh (2016)	OH,CH3OH_I	2240	0	0
6	KAN16	Kang		78		
7	JOR15	Jord	I	77		
8	KAN15	Kang		71		
9	NAK15	Naka		6		
10	GOM14	Gomez et al. (2014)	CH3OH_I,CH3OH_II	0		
11	LYO14	Lyo et al. (2014)	H2O,CH3OH_I	18	0	0
12	KAN13	Kang et al. (2013)	H2O,CH3OH_I	12	56	0
13	CHE12	Chen et al. (2012)	CH3OH_I	133	151	0
14	CHO12	Choi et al. (2012)	H2O,CH3OH_I	3	19	0
15	DEG12B	Deguchi et al. (2012				
16	LIM12	Lim et al. (2012)				
17	BAE11	Bae et al. (2011)				

Display associated data NEW

- [ ] IRAS source
- [ ] IRAS coordinates (RA, Dec)
- [ ] IRAS flux density (F12,F25,F60,F100)
- [ ] 2MASS source
- [ ] 2MASS coordinates (RA, Dec)
- [ ] 2MASS magnituted (J,H,K)
- [ ] Variable star
- [ ] Variable star parameters
- [ ] Star Formation Region name
- [ ] Star Formation Region parameters
- [ ] WISE source
- [ ] WISE coordinates (RA, Dec)
- [ ] WISE magnitudes (w1, w2, w3, w4)
- [ ] Akari IRC source
- [ ] Akari IRC coordinates (RA, Dec)
- [ ] Akari IRC fluxes (S09, S18)
- [ ] Akari FIS source
- [ ] Akari FIS coordinates (RA, Dec)

View images NEW

- [x] DSS (optical)
- [x] 2MASS (JHK)
- [x] WISE (4-22 um)
- [ ] IRAC (3-8 um)
- [ ] GLIMPSE 360 (3.6-4.5 um)
- [ ] PACS color (70-160 um)
- [ ] SPIRE color (250-500 um)
- [ ] AKARI color (60-160 um)
- [ ] NVSS (1.4 GHz)
- [ ] SDSS (optical+NIR)

Image size: 120 arcsec (default is 120 arcsec)

Просмотр данных из статьи (одиночные антенны)

Detection table from Chen et al. (2012)

Export table to csv

Hide / Show individual components

ID	Obs. RA (J2000)	Obs. Dec (J2000)	l (deg.)	b (deg.)	Source name	Other name Seq	Line CH_3OH (class I)	V_{peak} (km/s)	FWHM (km/s)	F_{peak} (Jy)	∫F dv (Jy*km/s)	Telescope	RMS (Jy)	Beam (arcsec)
1	18 02 12.8	-23 05 44.4	6.9228	-0.2511	G006.923-00.251	11	95 GHz (I)	20.36 (0.08)	0.89 (0.21)	6.1	5.8 (1.1)	PMODLH	1	53.000
2	18 02 12.8	-23 05 44.4	6.9228	-0.2511	G006.923-00.251	11	95 GHz (I)	21.35 (0.07)	0.51 (0.16)	5.8	3.2 (1)	PMODLH	0	53.000
3	18 02 12.8	-23 05 44.4	6.9228	-0.2511	G006.923-00.251	11	95 GHz (I)	22.63 (0.06)	0.97 (0.15)	10	10.4 (1.5)	PMODLH	0	53.000
4	18 02 12.8	-23 05 44.4	6.9228	-0.2511	G006.923-00.251	11	95 GHz (I)	24.02 (0.18)	1.08 (0.43)	3.5	4.1 (1.4)	PMODLH	0	53.000
5	18 04 17.4	-22 53 33.5	7.3348	-0.5671	G007.335-00.567	13	95 GHz (I)	20.08 (0.89)	11.54 (2.26)	1.2	15 (2.5)	PMODLH	0.7	53.000
6	18 04 17.4	-22 53 33.5	7.3348	-0.5671	G007.335-00.567	13	95 GHz (I)	20.62 (0.12)	0.87 (0.3)	2.5	2.3 (0.8)	PMODLH	0	53.000
7	18 05 22.6	-21 44 43.9	8.4579	-0.2240	G008.458-00.224	20	95 GHz (I)	98.48 (0.3)	2.71 (0.7)	2.4	6.9 (1.5)	PMODLH	0.9	53.000
8	18 05 25.7	-21 19 24.6	8.8318	-0.0280	G008.832-00.028	22	95 GHz (I)	-0.46 (0.05)	0.26 (0.22)	5.4	1.5 (0.6)	PMODLH	0.8	53.000
9	18 05 25.7	-21 19 24.6	8.8318	-0.0280	G008.832-00.028	22	95 GHz (I)	0.39 (0.03)	0.73 (0.1)	10.7	8.2 (1.1)	PMODLH	0	53.000
10	18 05 25.7	-21 19 24.6	8.8318	-0.0280	G008.832-00.028	22	95 GHz (I)	1.58 (0.12)	0.78 (0.36)	3	2.5 (1.3)	PMODLH	0	53.000
11	18 05 25.7	-21 19 24.6	8.8318	-0.0280	G008.832-00.028	22	95 GHz (I)	1.8 (0.84)	5.71 (1.88)	1.4	8.7 (2.8)	PMODLH	0	53.000
12	18 09 0.3	-20 11 37.5	10.2257	-0.2083	G010.226-00.208	29	95 GHz (I)	11.95 (0.2)	2.93 (0.47)	2.7	8.4 (1.2)	PMODLH	0.7	53.000
13	18 09 23.1	-20 08 8.7	10.3197	-0.2583	G010.320-00.258	31	95 GHz (I)	32.7 (0.01)	0.33 (0.01)	43.4	15.2 (1)	PMODLH	0.8	53.000
14	18 09 23.1	-20 08 8.7	10.3197	-0.2583	G010.320-00.258	31	95 GHz (I)	32.57 (0.06)	1.44 (0.17)	9.1	13.9 (1.3)	PMODLH	0	53.000
15	18 09 23.1	-20 08 8.7	10.3197	-0.2583	G010.320-00.258	31	95 GHz (I)	34.93 (0.04)	1.23 (0.09)	12.3	16.1 (1)	PMODLH	0	53.000
16	18 08 38.5	-19 51 54.5	10.4718	0.0257	G010.472+00.026	32	95 GHz (I)	66.91 (0.19)	9.38 (0.46)	7.8	78.3 (3.4)	PMODLH	1.1	53.000
17	18 10 29	-19 55 44	10.6254	-0.3840	G010.625-00.384	33	95 GHz (I)	-3.42 (0.21)	8.9 (0.4)	8.5	80.9 (3.7)	PMODLH	0.8	53.000
18	18 10 29	-19 55 44	10.6254	-0.3840	G010.625-00.384	33	95 GHz (I)	-6.31 (0.05)	0.96 (0.11)	14.7	15 (3.4)	PMODLH	0	53.000
19	18 10 29	-19 55 44	10.6254	-0.3840	G010.625-00.384	33	95 GHz (I)	-7.59 (0.18)	1.75 (0.36)	9.4	17.5 (4.2)	PMODLH	0	53.000
20	18 09 52	-19 17 21.5	11.1153	0.0520	G011.115+00.052	39	95 GHz (I)	21.81 (0.05)	1.16 (0.12)	5.2	6.5 (0.6)	PMODLH	0.5	53.000
21	18 12 18.8	-18 39 53.4	11.9413	-0.1540	G011.941-00.154	41	95 GHz (I)	43 (0.13)	2.59 (0.31)	3.7	10.3 (1.1)	PMODLH	0.7	53.000
22	18 12 23.8	-18 22 45	12.2013	-0.0340	G012.201-00.034	43	95 GHz (I)	49.47 (0.18)	1.64 (0.43)	2.4	4.2 (1)	PMODLH	0.7	53.000
23	18 12 23.8	-18 22 45	12.2013	-0.0340	G012.201-00.034	43	95 GHz (I)	53.14 (0.44)	3.1 (1.14)	1.3	4.4 (1.3)	PMODLH	0	53.000
24	18 13 11.5	-17 59 48.6	12.6273	-0.0161	G012.627-00.016	47	95 GHz (I)	19.83 (0.05)	0.88 (0.12)	8.8	8.2 (0.9)	PMODLH	0.8	53.000
25	18 13 11.5	-17 59 48.6	12.6273	-0.0161	G012.627-00.016	47	95 GHz (I)	21.17 (0.13)	0.9 (0.39)	3.8	3.6 (2.2)	PMODLH	0	53.000
26	18 13 11.5	-17 59 48.6	12.6273	-0.0161	G012.627-00.016	47	95 GHz (I)	22.76 (0.22)	2.2 (0.49)	5.3	12.4 (2.5)	PMODLH	0	53.000
27	18 14 39.9	-17 59 6.4	12.8052	-0.3181	G012.805-00.318	49	95 GHz (I)	12.64 (0.13)	2.26 (0.32)	3.3	7.9 (0.9)	PMODLH	0.6	53.000
28	18 14 39.9	-17 59 6.4	12.8052	-0.3181	G012.805-00.318	49	95 GHz (I)	15.02 (0.08)	0.63 (0.18)	2.9	1.9 (0.5)	PMODLH	0	53.000
29	18 11 51.3	-17 31 26.4	12.8893	0.4899	G012.889+00.490	50	95 GHz (I)	31.66 (0.03)	0.47 (0.08)	8.7	4.4 (0.9)	PMODLH	0.8	53.000
30	18 11 51.3	-17 31 26.4	12.8893	0.4899	G012.889+00.490	50	95 GHz (I)	32.71 (0.12)	0.57 (0.36)	2.3	1.4 (1.1)	PMODLH	0	53.000
31	18 11 51.3	-17 31 26.4	12.8893	0.4899	G012.889+00.490	50	95 GHz (I)	32.94 (0.19)	3.87 (0.4)	5.3	21.8 (2.3)	PMODLH	0	53.000
32	18 13 48.2	-17 45 34.4	12.9052	-0.0301	G012.905-00.030	51	95 GHz (I)	55.27 (0.14)	1.2 (0.3)	4.2	5.3 (1.6)	PMODLH	0.8	53.000

Просмотр данных из статьи (одиночные антенны)

Координаты

Название источника

Параметры линий

Шум, диаграмма

Второстепенные компоненты спектра

Detection table from Chen et al. (2012)

Export table to csv

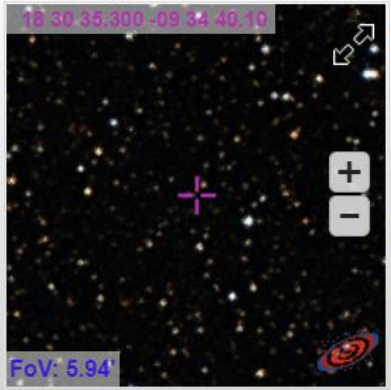
Hide / Show individual components

ID	Obs. RA (J2000)	Obs. Dec (J2000)	l (deg.)	b (deg.)	Source name	Other name Seq	Line CH_3OH (class I)	V_{peak} (km/s)	FWHM (km/s)	F_{peak} (Jy)	∫F dv (Jy*km/s)	Telescope	RMS (Jy)	Beam (arcsec)
1	18 02 12.8	-23 05 44.4	6.9228	-0.2511	G006.923-00.251	11	95 GHz (I)	20.36 (0.08)	0.89 (0.21)	6.1	5.8 (1.1)	PMODLH	1	53.000
2	18 02 12.8	-23 05 44.4	6.9228	-0.2511	G006.923-00.251	11	95 GHz (I)	21.35 (0.07)	0.51 (0.16)	5.8	3.2 (1)	PMODLH	0	53.000
3	18 02 12.8	-23 05 44.4	6.9228	-0.2511	G006.923-00.251	11	95 GHz (I)	22.63 (0.06)	0.97 (0.15)	10	10.4 (1.5)	PMODLH	0	53.000
4	18 02 12.8	-23 05 44.4	6.9228	-0.2511	G006.923-00.251	11	95 GHz (I)	24.02 (0.18)	1.08 (0.43)	3.5	4.1 (1.4)	PMODLH	0	53.000
5	18 04 17.4	-22 53 33.5	7.3348	-0.5671	G007.335-00.567	13	95 GHz (I)	20.08 (0.89)	11.54 (2.26)	1.2	15 (2.5)	PMODLH	0.7	53.000
6	18 04 17.4	-22 53 33.5	7.3348	-0.5671	G007.335-00.567	13	95 GHz (I)	20.62 (0.12)	0.87 (0.3)	2.5	2.3 (0.8)	PMODLH	0	53.000
7	18 05 22.6	-21 44 43.9	8.4579	-0.2240	G008.458-00.224	20	95 GHz (I)	98.48 (0.3)	2.71 (0.7)	2.4	6.9 (1.5)	PMODLH	0.9	53.000
8	18 05 25.7	-21 19 24.6	8.8318	-0.0280	G008.832-00.028	22	95 GHz (I)	-0.46 (0.05)	0.26 (0.22)	5.4	1.5 (0.6)	PMODLH	0.8	53.000
9	18 05 25.7	-21 19 24.6	8.8318	-0.0280	G008.832-00.028	22	95 GHz (I)	0.39 (0.03)	0.73 (0.1)	10.7	8.2 (1.1)	PMODLH	0	53.000
10	18 05 25.7	-21 19 24.6	8.8318	-0.0280	G008.832-00.028	22	95 GHz (I)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]ODLH	0	53.000
11	18 05 25.7	-21 19 24.6	8.8318	-0.0280	G008.832-00.028	22	95 GHz (I)	1.8 (0.84)	5.71 (1.88)	1.4	8.7 (2.8)	PMODLH	0	53.000
12	18 09 0.3	-20 11 37.5	10.2257	-0.2083	G010.226-00.208	29	95 GHz (I)	11.95 (0.2)	2.93 (0.47)	2.7	8.4 (1.2)	PMODLH	0.7	53.000
13	18 09 23.1	-20 08 8.7	10.3197	-0.2583	G010.320-00.258	31	95 GHz (I)	32.7 (0.01)	0.33 (0.01)	43.4	15.2 (1)	PMODLH	0.8	53.000
14	18 09 23.1	-20 08 8.7	10.3197	-0.2583	G010.320-00.258	31	95 GHz (I)	32.57 (0.06)	1.44 (0.17)	9.1	13.9 (1.3)	PMODLH	0	53.000
15	18 09 23.1	-20 08 8.7	10.3197	-0.2583	G010.320-00.258	31	95 GHz (I)	34.93 (0.04)	1.23 (0.09)	12.3	16.1 (1)	PMODLH	0	53.000
16	18 08 38.5	-19 51 54.5	10.4718	0.0257	G010.472+00.026	32	95 GHz (I)	66.91 (0.19)	9.38 (0.46)	7.8	78.3 (3.4)	PMODLH	1.1	53.000
17	18 10 29	-19 55 44	10.6254	-0.3840	G010.625-00.384	33	95 GHz (I)	-3.42 (0.21)	8.9 (0.4)	8.5	80.9 (3.7)	PMODLH	0.8	53.000
18	18 10 29	-19 55 44	10.6254	-0.3840	G010.625-00.384	33	95 GHz (I)	-6.31 (0.05)	0.96 (0.11)	14.7	15 (3.4)	PMODLH	0	53.000
19	18 10 29	-19 55 44	10.6254	-0.3840	G010.625-00.384	33	95 GHz (I)	-7.59 (0.18)	1.75 (0.36)	9.4	17.5 (4.2)	PMODLH	0	53.000
20	18 09 52	-19 17 21.5	11.1153	0.0520	G011.115+00.052	39	95 GHz (I)	21.81 (0.05)	1.16 (0.12)	5.2	6.5 (0.6)	PMODLH	0.5	53.000
21	18 12 18.8	-18 39 53.4	11.9413	-0.1540	G011.941-00.154	41	95 GHz (I)	43 (0.13)	2.59 (0.31)	3.7	10.3 (1.1)	PMODLH	0.7	53.000
22	18 12 23.8	-18 22 45	12.2013	-0.0340	G012.201-00.034	43	95 GHz (I)	49.47 (0.18)	1.64 (0.43)	2.4	4.2 (1)	PMODLH	0.7	53.000
23	18 12 23.8	-18 22 45	12.2013	-0.0340	G012.201-00.034	43	95 GHz (I)	53.14 (0.44)	3.1 (1.14)	1.3	4.4 (1.3)	PMODLH	0	53.000
24	18 13 11.5	-17 59 48.6	12.6273	-0.0161	G012.627-00.016	47	95 GHz (I)	19.83 (0.05)	0.88 (0.12)	8.8	8.2 (0.9)	PMODLH	0.8	53.000
25	18 13 11.5	-17 59 48.6	12.6273	-0.0161	G012.627-00.016	47	95 GHz (I)	21.17 (0.13)	0.9 (0.39)	3.8	3.6 (2.2)	PMODLH	0	53.000
26	18 13 11.5	-17 59 48.6	12.6273	-0.0161	G012.627-00.016	47	95 GHz (I)	22.76 (0.22)	2.2 (0.49)	5.3	12.4 (2.5)	PMODLH	0	53.000
27	18 14 39.9	-17 59 6.4	12.8052	-0.3181	G012.805-00.318	49	95 GHz (I)	12.64 (0.13)	2.26 (0.32)	3.3	7.9 (0.9)	PMODLH	0.6	53.000
28	18 14 39.9	-17 59 6.4	12.8052	-0.3181	G012.805-00.318	49	95 GHz (I)	15.02 (0.08)	0.63 (0.18)	2.9	1.9 (0.5)	PMODLH	0	53.000
29	18 11 51.3	-17 31 26.4	12.8893	0.4899	G012.889+00.490	50	95 GHz (I)	31.66 (0.03)	0.47 (0.08)	8.7	4.4 (0.9)	PMODLH	0.8	53.000
30	18 11 51.3	-17 31 26.4	12.8893	0.4899	G012.889+00.490	50	95 GHz (I)	32.71 (0.12)	0.57 (0.36)	2.3	1.4 (1.1)	PMODLH	0	53.000
31	18 11 51.3	-17 31 26.4	12.8893	0.4899	G012.889+00.490	50	95 GHz (I)	32.94 (0.19)	3.87 (0.4)	5.3	21.8 (2.3)	PMODLH	0	53.000
32	18 13 48.2	-17 45 34.4	12.9052	-0.0301	G012.905-00.030	51	95 GHz (I)	55.27 (0.14)	1.2 (0.3)	4.2	5.3 (1.6)	PMODLH	0.8	53.000

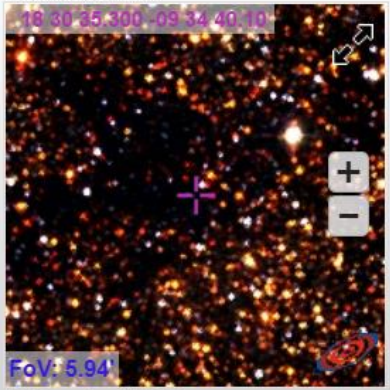
Просмотр данных из статьи (одиночные антенны)

Source G022.041+00.221 (277.647083333333, -9.57780555555556)

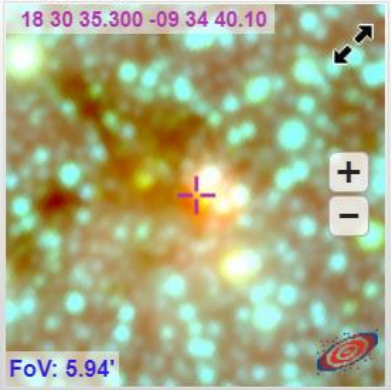
DSS colored



2MASS colored

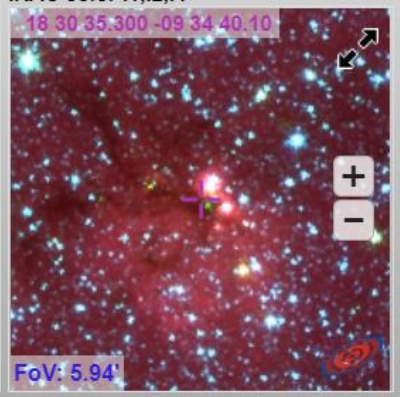


WISE colored



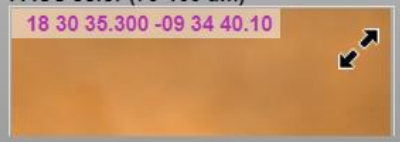
SDSS color

IRAC color I1,I2,I4

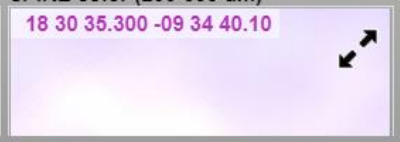


GLIMPSE 360

PACS color (70-160 um)



SPIRE color (250-500 um)



NVSS (1.4GHz)

Compare all maser spectra

Maser observations

Tip: Green is detection,
Red is non-detection

Hide / Show individual components

CH3OH I maser observations within 60"

Peak	Vpeak	Dist.	Ref
24.959 GHz, Image	km/s,	11.2"	[TOW17] Go
44 GHz, Image	km/s,	11.2"	[CYG09] Go
95 GHz, 5.4 Jy,	52.19 (0.23) km/s,	0.2"	[CHE12] Go
95 GHz, 11.7 Jy,	50.67 (0.04) km/s,	0.2"	[CHE12] Go
95 GHz, 21 Jy,	51.72 (0.02) km/s,	0.2"	[CHE12] Go
95 GHz, 15.63 Jy,	50.61 (0.04) km/s,	11.2"	[CHE11] Go
95 GHz, 3.86 Jy,	54.03 (0.1) km/s,	11.2"	[CHE11] Go
95 GHz, 1.41 Jy,	55.63 (0.72) km/s,	11.2"	[CHE11] Go
95 GHz, 4.36 Jy,	52.33 (0.04) km/s,	11.2"	[CHE11] Go
95 GHz, 20.96 Jy,	51.57 (0.01) km/s,	11.2"	[CHE11] Go

CH3OH II maser observations within 60"

Peak	Vpeak	Dist.	Ref
6.6 GHz, Image	km/s,	11.2"	[CYG09] Go
σ=10.000 Jy,	54	15.3"	[BAR09] Go

Associated data

Variable star:

IRAS source(s):

18278-0936 (click to go)

F_{12} = 5.03 Jy
F_{25} = 11.90 Jy
F_{60} = 281.00 Jy
F_{100} = 993.00 Jy

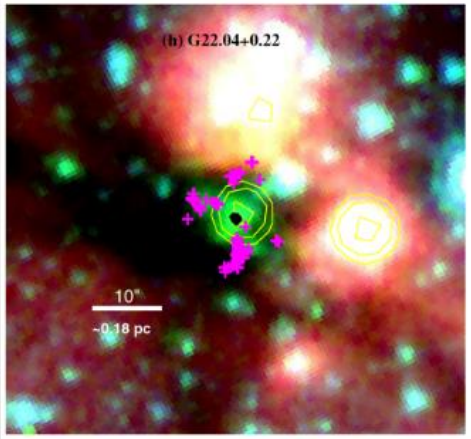
Просмотр подробной информации об источнике

29	18 11 51.3	-17 31 26.4	12.8893	0.4899	G012.889+00.490	50	95 GHz (I)	31.66 (0.03)	0.47 (0.08)	8.7	4.4 (0.9)	PMODLH	0.8	53.000
30	18 11 51.3	-17 31 26.4	12.8893	0.4899	G012.889+00.490	50	95 GHz (I)	32.71 (0.12)	0.57 (0.36)	2.3	1.4 (1.1)	PMODLH	0	53.000
31	18 11 51.3	-17 31 26.4	12.8893	0.4899	G012.889+00.490	50	95 GHz (I)	32.94 (0.19)	3.87 (0.4)	5.3	21.8 (2.3)	PMODLH	0	53.000
32	18 13 48.2	-17 45 34.4	12.9052	-0.0301	G012.905-00.030	51	95 GHz (I)	55.27 (0.14)	1.2 (0.3)	4.2	5.3 (1.6)	PMODLH	0.8	53.000
33	18 13 48.2	-17 45 34.4	12.9052	-0.0301	G012.905-00.030	51	95 GHz (I)	57.35 (0.08)	2.13 (0.21)	9.6	21.7 (1.8)	PMODLH	0	53.000

Просмотр данных из статьи (одиночные антенны)

Description of source "G22.04+0.22" from Cyganowski et al. (2009) at the distance 11"

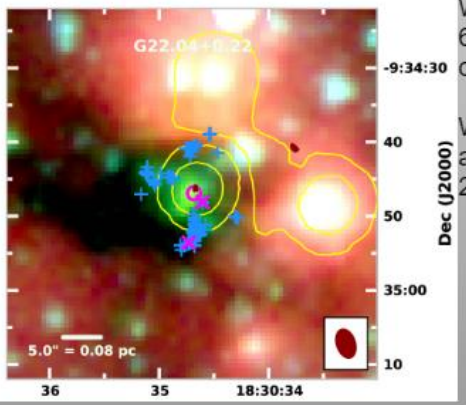
G22.04+0.22 is located in an IRDC, south and east of two bright sources of MIR emission (Figure 1(h)). The 6.7 GHz CH3OH masers detected toward this EGO are coincident with bright 4.5 μm emission, and with 24 μm emission (angular separation from 24 μm peak is ~2arcsec; Figure 1(h) and Table 9).



In contrast, the 44 GHz CH3OH maser emission tends toward the periphery of the 4.5 μm emission, and is characterized by three main regions of maser emission—to the north, northeast, and south—and a clump of masers to the southwest. The northeastern masers coincide with and trace the extended 4.5 μm emission, while the other regions of maser emission lie at the edges of or beyond the extended 4.5 μm emission. The two northern maser regions are kinematically well-mixed (e.g., include masers across a range of velocities). The southern region, in contrast, consists predominantly of a N–S line of masers redshifted relative to the thermal gas vLSR; south of this line lies an E–W distribution of masers at the systemic velocity and blueward (Figure 5(h)). The 6.7 GHz CH3OH masers have a broadly N–S distribution, with the most blueshifted masers to the south, redshifted masers in the middle, and masers with slightly blueshifted and systemic velocities to the north. The strongest, blueshifted, 6.7 GHz masers appear to be distributed in arc-like pattern. Very broad SiO(5–4) emission (□vFWHM = 18.3 km/s) was detected toward this EGO in our JCMT survey (Table 3).

The copious 44 GHz CH3OH maser emission, broad line wings of the HCO+ profile (Figure 2(h)), and detection of SiO all support the presence of molecular outflow(s) from this previously unstudied MYSO, but their number, orientation and kinematics remain unclear from the avail-able data. High-resolution observations of a direct molec-ular outflow tracer are required to understand the kine-matics of the outflow(s) in this region and their relation to the unusual 44 GHz CH3OH maser morphology and kinematics.

Description of source "G22.04+0.22" from Towner et al. (2017) at the distance 11"



We detect two 1.3 cm continuum sources in the field. CM1 is a weak (0.6 mJy beam−1, Table 4), unresolved source that is coincident with the EGO, compact 24 μm emission, and 6.7 GHz CH3OH masers (Cyganowski et al. 2009). A second centimeter continuum source is detected ~15² NW of the EGO and does not appear to be asso-ciated. Neither centimeter continuum source was detected by Cyganowski et al. (2011a), consistent with their 4σ upper limit of 1 mJy at 1.3 cm.

We detect thermal 25 GHz CH3OH emission coincident with CM1 and the 6.7 GHz masers (Figure 1). We also detect two 25 GHz CH3OH masers, one of which is <2″ SW of CM1 and its thermal 25 GHz CH3OH emission. The second 25 GHz maser is coincident with a line of 44 GHz CH3OH masers that extends to the south of the EGO (Cyganowski et al. 2009).

Описания источников из разных статей

29	18 11 51.3	-17 31 26.4	12.8893	0.4899	G012.889+00.490	50	95 GHz (I)	31.66 (0.03)	0.47 (0.08)	8.7	4.4 (0.9)	PMODLH	0.8	53.000
30	18 11 51.3	-17 31 26.4	12.8893	0.4899	G012.889+00.490	50	95 GHz (I)	32.71 (0.12)	0.57 (0.36)	2.3	1.4 (1.1)	PMODLH	0	53.000
31	18 11 51.3	-17 31 26.4	12.8893	0.4899	G012.889+00.490	50	95 GHz (I)	32.94 (0.19)	3.87 (0.4)	5.3	21.8 (2.3)	PMODLH	0	53.000
32	18 13 48.2	-17 45 34.4	12.9052	-0.0301	G012.905-00.030	51	95 GHz (I)	55.27 (0.14)	1.2 (0.3)	4.2	5.3 (1.6)	PMODLH	0.8	53.000
33	18 13 48.2	-17 45 34.4	12.9052	-0.0301	G012.905-00.030	51	95 GHz (I)	57.35 (0.08)	2.13 (0.21)	9.6	21.7 (1.8)	PMODLH	0	53.000

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ADS papers around target G022.04100.221 (18 30 35.3 -09 34 40.1)

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*Rygl, K. L. J. Initial phases of massive star formation in high infrared extinction clouds *. I. Physical parameters* // **2010** ADS
Rosolowsky, Erik The Bolocam Galactic Plane Survey. II. Catalog of the Image Data // **2010** ADS

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70	18 35 8.6	-07 25 4.3	24.3295	0.1424	G024.329+00.142	97	95 GHz (I)	113.52 (0.02)	0.63 (0.05)	24.1	16.1 (1.6)	PMODLH	0.9	53.000
29	18 11 51.3	-17 31 26.4	12.8893	0.4899	G012.889+00.490	50	95 GHz (I)	31.66 (0.03)	0.47 (0.08)	8.7	4.4 (0.9)	PMODLH	0.8	53.000
30	18 11 51.3	-17 31 26.4	12.8893	0.4899	G012.889+00.490	50	95 GHz (I)	32.71 (0.12)	0.57 (0.36)	2.3	1.4 (1.1)	PMODLH	0	53.000
31	18 11 51.3	-17 31 26.4	12.8893	0.4899	G012.889+00.490	50	95 GHz (I)	32.94 (0.19)	3.87 (0.4)	5.3	21.8 (2.3)	PMODLH	0	53.000
32	18 13 48.2	-17 45 34.4	12.9052	-0.0301	G012.905-00.030	51	95 GHz (I)	55.27 (0.14)	1.2 (0.3)	4.2	5.3 (1.6)	PMODLH	0.8	53.000
33	18 13 48.2	-17 45 34.4	12.9052	-0.0301	G012.905-00.030	51	95 GHz (I)	57.35 (0.08)	2.13 (0.21)	9.6	21.7 (1.8)	PMODLH	0	53.000

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Detection table from Jordan et al. (2017)

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ID	Obs. RA (J2000)	Obs. Dec (J2000)	RA offset (mas)	Dec offset (mas)	l (deg.)	b (deg.)	#	Source name	Other name Paper I site name	Image	Line CH_3OH (class I)	V_{range} (km/s)	V_{peak} (km/s)	F_{peak} (Jy)	$\int F\,dv$ (Jy*km/s)	Telescope	RMS (mJy)	Beam (arcsec)
1	+16 07 37	-52 30 59			330.292493	-0.391939		G330.294-0.393	G330.30-0.39	Image	44 GHz (I)	-82;-76				ATCA	46	0.5 x 1
1	+16 07 37.51	-52 30 56.1	7648.8	2900.4	330.2939924	-0.3922114623	1	G330.2940-0.3921A					-80.13 (2)	1 (4)	0.679			
1	+16 07 38.24	-52 31 0.5	18598.8	-1499.6	330.2945412	-0.3943605718	2	G330.2945-0.3943A					-77.55 (2)	0.52 (3)	0.363			
2	+16 09 30.6	-52 16 08			330.67269	-0.404075		G330.678-0.402	G330.67-0.40	Image	44 GHz (I)	-69;-60				ATCA	42	0.5 x 1
2	+16 09 31.7	-52 15 50.7	16500	17300.4	330.6780077	-0.4024369882	1	G330.6780-0.4023A					-64.78 (1)	1.73 (6)	1.015			
3	+16 07 12.2	-51 43 07			330.781285	0.241749		G330.779+0.249	G330.7S+0.24	Image	44 GHz (I)	-46;-41				ATCA	42	0.5 x 1
3	+16 07 9.75	-51 42 53.76	-36748.8	13239.6	330.7790641	0.248720006	1	G330.7790+0.2488A					-43.227 (6)	0.72 (2)	0.308			
4	+16 10 16.6	-52 05 50			330.875462	-0.357543		G330.876-0.362	G330.87-0.36	Image	44 GHz (I)	-66;-57				ATCA	45	0.5 x 1
4	+16 10 15.99	-52 05 46.6	-9151.2	3399.2	330.8749568	-0.3557899956	1	G330.8749-0.3557A					-61.284 (2)	14.3 (1)	5.12			
4	+16 10 19.8	-52 06 12.1	47998.8	-22100.8	330.8773076	-0.3676114037	2	G330.8774-0.3676A					-58.06 (2)	2.4 (1)	1.519			
5	+16 10 21.1	-52 06 42			330.87411	-0.375968		G330.871-0.383	G330.88-0.38	Image	44 GHz (I)	-67;-57				ATCA	44	0.5 x 1
5	+16 10 22.13	-52 07 8.23	15448.8	-26228.8	330.8710965	-0.3831056626	1	G330.8711-0.3830A					-58.1 (4)	0.85 (6)	0.69			
5	+16 10 22.1	-52 07 8.3	14998.8	-26298.8	330.871027	-0.3830678119	2	G330.8711-0.3830B					-62.86 (3)	0.77 (5)	0.513			
5	+16 10 22.1	-52 07 8.3	14998.8	-26298.8	330.871027	-0.3830678119	3	G330.8711-0.3830B					-64.5 (8)	0.51 (4)	0.34			
6	+16 10 44.2	-52 05 56			330.926165	-0.406767		G330.927-0.408	G330.92-0.41	Image	44 GHz (I)	-44;-40				ATCA	45	0.5 x 1
6	+16 10 44.6	-52 06 0.37	5998.8	-4369.6	330.9260901	-0.4083532663	1	G330.9261-0.4083A					-42.36 (1)	11.8 (4)	5.877			
6	+16 10 44.6	-52 06 0.37	5998.8	-4369.6	330.9260901	-0.4083532663	2	G330.9261-0.4083A					-41.37 (5)	1.2 (2)	0.598			
6	+16 10 44.723	-52 05 54.29	7843.8	1710.4	330.9274695	-0.4073291347	3	G330.9274-0.4072A					-41.41 (2)	1.9 (1)	0.744			
7	+16 10 6.6	-51 59 23			330.929597	-0.261198		G330.931-0.260	G330.93-0.26	Image	44 GHz (I)	-91;-87				ATCA	43	0.5 x 1
7	+16 10 6.61	-51 59 18.5	150	4499.2	330.9304641	-0.2602967302	1	G330.9304-0.2602A					-90 (1)	3.9 (1)	2.675			
7	+16 10 6.87	-51 59 17.78	4050	5219.2	330.9310899	-0.260602428	2	G330.9311-0.2605A					-89.014 (5)	3.94 (8)	1.48			
8	+16 09 52	-51 54 59			330.951774	-0.181878		G330.955-0.182	G330.95-0.18	Image	44 GHz (I)	-98;-84				ATCA	46	0.5 x 1
8	+16 09 52.99	-51 54 52.8	14848.8	6200.4	330.9548119	-0.1823364125	1	G330.9548-0.1823A					-93.66 (1)	1.55 (6)	0.67			
9	+16 11 59.8	-52 00 32			331.129249	-0.472941		G331.131-0.470	G331.13-0.48	Image	44 GHz (I)	-70;-65				ATCA	44	0.5 x 1
9	+16 11 59.38	-52 00 19.5	-6301.2	12500.4	331.1308341	-0.4696694927	1	G331.1308-0.4696A					-68.94 (2)	0.78 (5)	0.346			
9	+16 11 59.4	-52 00 20.24	-6001.2	11760.4	331.1307311	-0.4698546474	2	G331.1308-0.4698A					-67.45 (3)	2.6 (1)	2.876			
10	+16 10 59.7	-51 50 25			331.131275	-0.244305		G331.132-0.244	G331.13-0.25	Image	44 GHz (I)	-93;-78				ATCA	46	0.5 x 1
10	+16 10 59.53	-51 50 25.79	-2550	-789.2	331.1308052	-0.2441675933	1	G331.1308-0.2441A					-87.5 (3)	13 (6)	14.148			
10	+16 10 59.54	-51 50 25.72	-2400	-719.2	331.1308373	-0.2441708713	2	G331.1308-0.2441B					-90.1 (1)	21 (4)	24.901			
10	+16 10 59.54	-51 50 25.68	-2400	-679.2	331.1308448	-0.2441627313	3	G331.1308-0.2441C					-91.11 (1)	93 (3)	65.276			
10	+16 11 0.7	-51 50 23.97	15000	1030.8	331.1333559	-0.2458474993	4	G331.1333-0.2458A					-88.531 (8)	45 (1)	23.769			
10	+16 10 59.41	-51 50 11.8	-4350	13200.8	331.133224	-0.2411103477	5	G331.1333-0.2410A					-84.63 (2)	23.1 (2)	10.604			
10	+16 10 59.45	-51 50 11.64	-3750	13360.8	331.1333297	-0.2411478848	6	G331.1333-0.2410B					-86.19 (1)	2.9 (1)	1.151			

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Detection table from Jordan et al. (2017)

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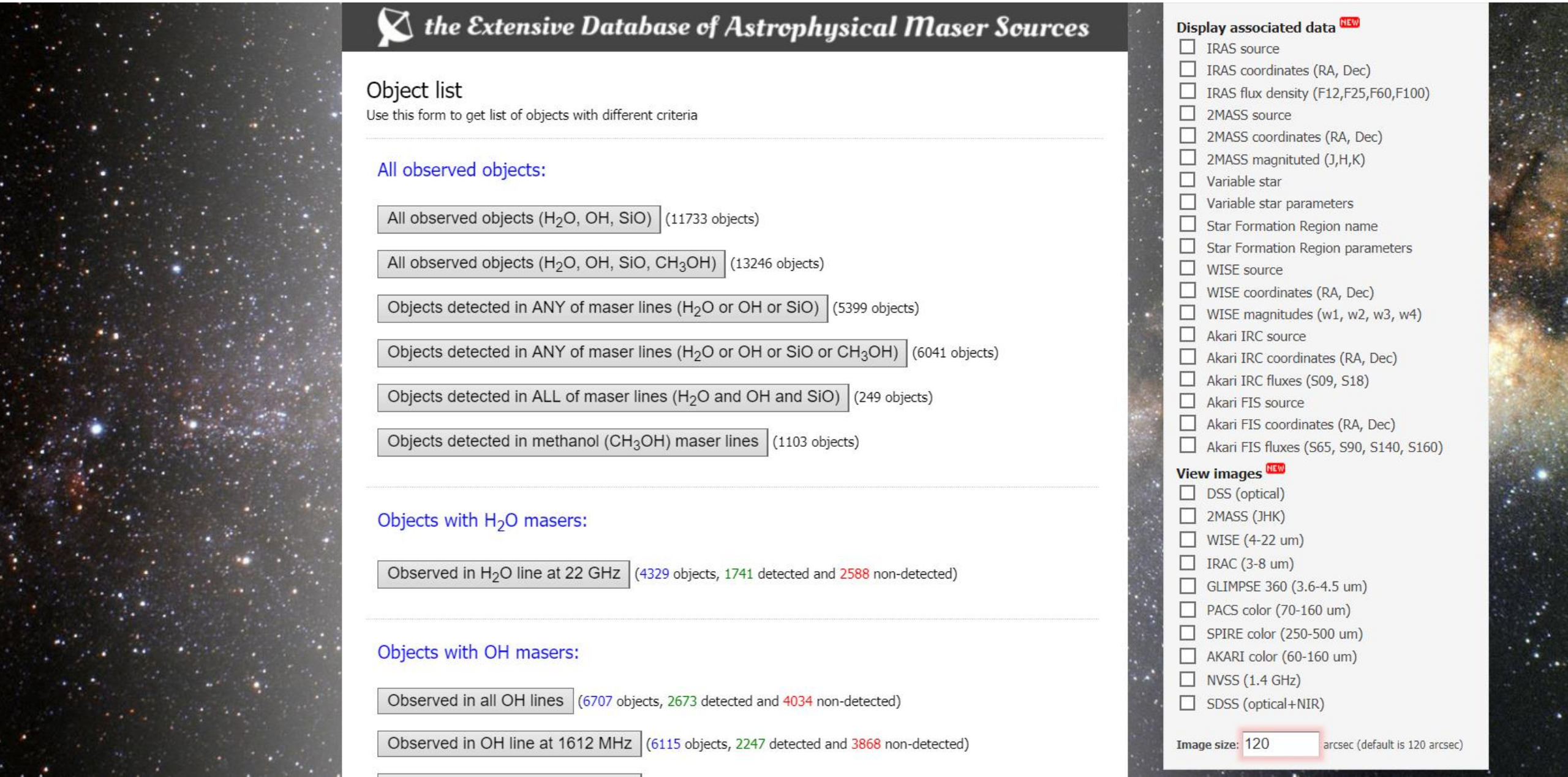
ID	Obs. RA (J2000)	Obs. Dec (J2000)	RA offset (mas)	Dec offset (mas)	l (deg.)	b (deg.)	#	Source name	Other name Paper I site name	Image	Line CH_3OH (class I)	V_{range} (km/s)	V_{peak} (km/s)	F_{peak} (Jy)	$\int F\,dv$ (Jy*km/s)	Telescope	RMS (mJy)	Beam (arcsec)
1	+16 07 37	-52 30 59			330.292493	-0.391939		G330.294-0.393	G330.30-0.39	Image	44 GHz (I)	-82;-76				ATCA	46	0.5 x 1
1	+16 07 37.51	-52 30 56.1	7648.8	2900.4	330.2939924	-0.3922114623	1	G330.2940-0.3921A					-80.13 (2)	1 (4)	0.679			
1	+16 07 38.24	-52 31 0.5	18598.8	-1499.6	330.2945412	-0.3943605718	2	G330.2945-0.3943A					-77.55 (2)	0.52 (3)	0.363			
2	+16 09 30.6	-52 16 08			330.67269	-0.404075		G330.678-0.402	G330.67-0.40	Image	44 GHz (I)	-69;-60				ATCA	42	0.5 x 1
2	+16 09 31.7	-52 15 50.7	16500	17300.4	330.6780077	-0.4024369882	1	G330.6780-0.4023A					-64.78 (1)	1.73 (6)	1.015			
3	+16 07 12.2	-51 43 07			330.781285	0.241749		G330.779+0.249	G330.7S+0.24	Image	44 GHz (I)	-46;-41				ATCA	42	0.5 x 1
3	+16 07 9.75	-51 42 53.76	-36748.8	13239.6	330.7790641	0.248720006	1	G330.7790+0.2488A					-43.227 (6)	0.72 (2)	0.308			
4	+16 10 16.6	-52 05 50			330.875462	-0.357543		G330.876-0.362	G330.87-0.36	Image	44 GHz (I)	-66;-57				ATCA	45	0.5 x 1
4	+16 10 15.99	-52 05 46.6	-9151.2	3399.2	330.8749568	-0.3557899956	1	G330.8749-0.3557A					-61.284 (2)	14.3 (1)	5.12			
4	+16 10 19.8	-52 06 12.1	47998.8	-22100.8	330.8773076	-0.3676114037	2	G330.8774-0.3676A					-58.06 (2)	2.4 (1)	1.519			
5	+16 10 21.1	-52 06 42			330.87411	-0.375968		G330.871-0.383	G330.88-0.38	Image	44 GHz (I)	-67;-57				ATCA	44	0.5 x 1
5	+16 10 22.13	-52 07 8.23	15448.8	-26228.8	330.8710965	-0.3831056626	1	G330.8711-0.3830A					-58.1 (4)	0.85 (6)	0.69			
5	+16 10 22.1	-52 07 8.3	14998.8	-26298.8	330.871027	-0.3830678119	2	G330.8711-0.3830B						0.77 (5)	0.513			
5	+16 10 22.1	-52 07 8.3	14998.8	-26298.8	330.871027	-0.3830678119	3	G330.8711-0.3830B					-64.5 (8)	0.51 (4)	0.34			
6	+16 10 44.2	-52 05 56			330.926165	-0.406767		G330.927-0.408	G330.92-0.41	Image	44 GHz (I)	-44;-40				ATCA	45	0.5 x 1
6	+16 10 44.6	-52 06 0.37	5998.8	-4369.6	330.9260901	-0.4083532663	1	G330.9261-0.4083A					-42.36 (1)	11.8 (4)	5.877			
6	+16 10 44.6	-52 06 0.37	5998.8	-4369.6	330.9260901	-0.4083532663	2	G330.9261-0.4083A					-41.37 (5)	1.2 (2)	0.598			
6	+16 10 44.723	-52 05 54.29	7843.8	1710.4	330.9274695	-0.4073291347	3	G330.9274-0.4072A					-41.41 (2)	1.9 (1)	0.744			
7	+16 10 6.6	-51 59 23			330.929597	-0.261198		G330.931-0.260	G330.93-0.26	Image	44 GHz (I)	-91;-87				ATCA	43	0.5 x 1
7	+16 10 6.61	-51 59 18.5	150	4499.2	330.9304641	-0.2602967302	1	G330.9304-0.2602A					-90 (1)	3.9 (1)	2.675			
7	+16 10 6.87	-51 59 17.78	4050	5219.2	330.9310899	-0.260602428	2	G330.9311-0.2605A					-89.014 (5)	3.94 (8)	1.48			
8	+16 09 52	-51 54 59			330.951774	-0.181878		G330.955-0.182	G330.95-0.18	Image	44 GHz (I)	-98;-84				ATCA	46	0.5 x 1
8	+16 09 52.99	-51 54 52.8	14848.8	6200.4	330.9548119	-0.1823364125	1	G330.9548-0.1823A					-93.66 (1)	1.55 (6)	0.67			
9	+16 11 59.8	-52 00 32			331.129249	-0.472941		G331.131-0.470	G331.13-0.48	Image	44 GHz (I)	-70;-65				ATCA	44	0.5 x 1
9	+16 11 59.38	-52 00 19.5	-6301.2	12500.4	331.1308341	-0.4696694927	1	G331.1308-0.4696A					-68.94 (2)	0.78 (5)	0.346			
9	+16 11 59.4	-52 00 20.24	-6001.2	11760.4	331.1307311	-0.4698546474	2	G331.1308-0.4698A					-67.45 (3)	2.6 (1)	2.876			
10	+16 10 59.7	-51 50 25			331.131275	-0.244305		G331.132-0.244	G331.13-0.25	Image	44 GHz (I)	-93;-78				ATCA	46	0.5 x 1
10	+16 10 59.53	-51 50 25.79	-2550	-789.2	331.1308052	-0.2441675933	1	G331.1308-0.2441A					-87.5 (3)	13 (6)	14.148			
10	+16 10 59.54	-51 50 25.72	-2400	-719.2	331.1308373	-0.2441708713	2	G331.1308-0.2441B					-90.1 (1)	21 (4)	24.901			
10	+16 10 59.54	-51 50 25.68	-2400	-679.2	331.1308448	-0.2441627313	3	G331.1308-0.2441C					-91.11 (1)	93 (3)	65.276			
10	+16 11 0.7	-51 50 23.97	15000	1030.8	331.1333559	-0.2458474993	4	G331.1333-0.2458A					-88.531 (8)	45 (1)	23.769			
10	+16 10 59.41	-51 50 11.8	-4350	13200.8	331.133224	-0.2411103477	5	G331.1333-0.2410A					-84.63 (2)	23.1 (2)	10.604			
10	+16 10 59.45	-51 50 11.64	-3750	13360.8	331.1333297	-0.2411478848	6	G331.1333-0.2410B					-86.19 (1)	2.9 (1)	1.151			

Отдельные мазерные пятна

Список объектов



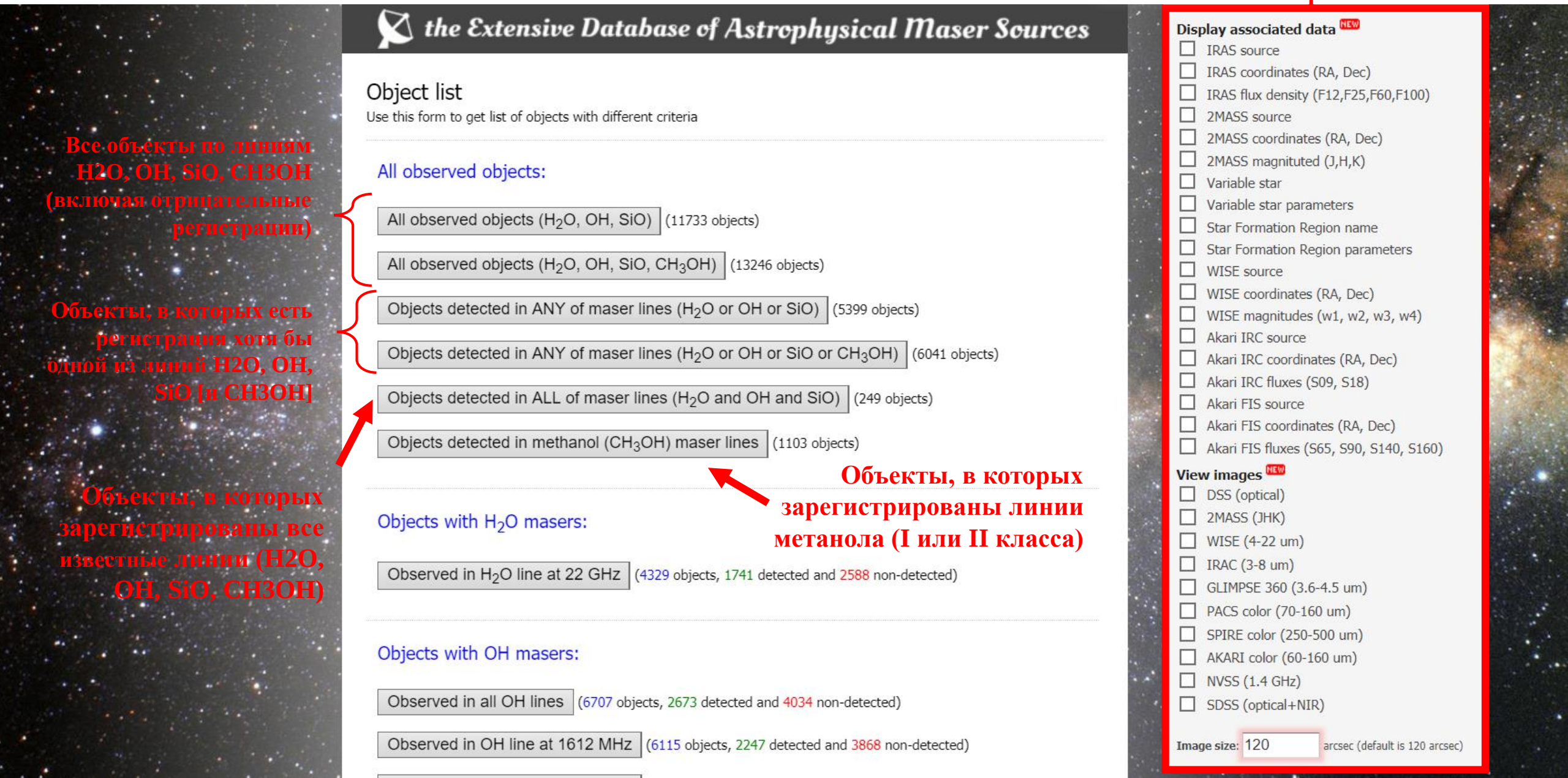
Список объектов

Просмотр данных из внешних каталогов, связанных с объектами и их изображений

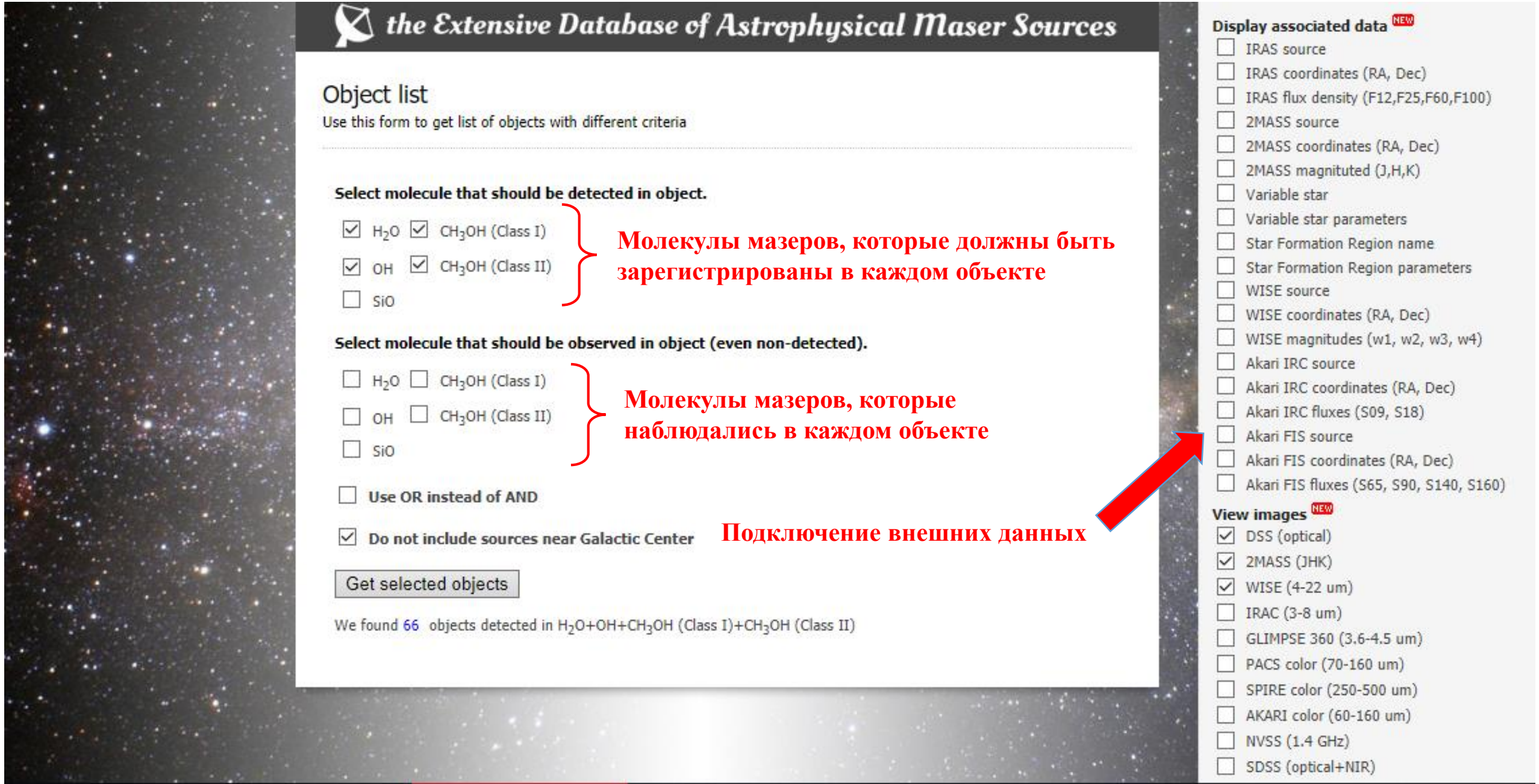
Все объекты по линиям H2O, OH, SiO, CH3OH (включая отрицательные регистрации)

Объекты, в которых есть регистрация хотя бы одной из линий H2O, OH, SiO [и CH3OH]

Объекты, в которых зарегистрированы все известные линии (H2O, OH, SiO, CH3OH)



Список объектов



Список объектов

List of All objects with any maser lines detected (H_2O or OH or SiO or CH_3OH)

Display associated data NEW

- ☐ IRAS source ☐ IRAS coordinates (RA, Dec) ☐ IRAS flux density (F12,F25,F60,F100)
- ☐ 2MASS source ☐ 2MASS coordinates (RA, Dec) ☐ 2MASS magnituted (J,H,K)
- ☐ Variable star ☐ Variable star parameters ☐ Star Formation Region name ☐ Star Formation Region parameters
- ☐ WISE source ☐ WISE coordinates (RA, Dec) ☐ WISE magnitudes (w1, w2, w3, w4)
- ☐ Akari IRC source ☐ Akari IRC coordinates (RA, Dec) ☐ Akari IRC fluxes (S09, S18)
- ☐ Akari FIS source ☐ Akari FIS coordinates (RA, Dec) ☐ Akari FIS fluxes (S65, S90, S140, S160)

View images NEW

☐ DSS (optical) ☐ 2MASS (JHK) ☐ WISE (4-22 um) ☐ IRAC (3-8 um) ☐ GLIMPSE 360 (3.6-4.5 um) ☐ PACS color (70-160 um) ☐ SPIRE color (250-500 um)

☐ AKARI color (60-160 um) ☐ NVSS (1.4 GHz) ☐ SDSS (optical+NIR) **Image size:** 120 arcsec (default is 120 arcsec)

Get selected data

All objects with any maser lines detected (H_2O or OH or SiO or CH_3OH)

View object statistics

Export table to csv

Filter Clear

ID	Object id	GC	Object name	Mean RA	Mean Dec	l	b	Detection	References
				deg. (J2000)	deg. (J2000)	(deg.)	(deg.)	Yes/No	
1	108.7-35.56	0	Z Peg	0.0273420	25.8864580	108.7129	-35.5641	-H_2O; -OH; +SiO;	CHO12; TAK01; YUN13; CHO96; NRO_list; LEW94; SIV88;
2	112.2-23.32	0	IRAS 23584+3813	0.2602030	38.5040400	112.2193	-23.3171	+SiO;	DEG16;
3	116.1-6.55	0	Y Cas	0.8316315	55.6841640	116.1407	-6.5519	+H_2O;	TAK94; VAL01;
4	116.1-6.56	0	Y Cas	0.8392665	55.6808080	116.1443	-6.5560	+OH; +SiO;	CHO96; JEW91; KIM10; KIM14; NRO_list; RUD10; SZY99;
5	113.2-21.87	0	SV And	1.0836615	40.1099735	113.2491	-21.8745	-OH; +SiO;	CHO96; JEW91; KIM14; NRO_list; SIV88;
6	114.3-19.04	0	KU And	1.7204170	43.0833330	114.3473	-19.0445	-H_2O; -OH; +SiO;	LEW95A; NRO_list; TAK01;
7	39.9-80.04	0	SY Scl	1.8991790	-25.4934330	39.9153	-80.0436	+H_2O;	TAK94;
8	39.9-80.05	0	SY Scl	1.9013535	-25.4944320	39.9120	-80.0457	+OH; +SiO;	KIM10; KIM14; LEW95A;

Список объектов

List of All objects with any maser lines detected (H_2O or OH or SiO or CH_3OH)

Display associated data NEW

- ☐ IRAS source ☐ IRAS coordinates (RA, Dec) ☐ IRAS flux density (F12,F25,F60,F100)
- ☐ 2MASS source ☐ 2MASS coordinates (RA, Dec) ☐ 2MASS magnituted (J,H,K)
- ☐ Variable star ☐ Variable star parameters ☐ Star Formation Region name ☐ Star Formation Region parameters
- ☐ WISE source ☐ WISE coordinates (RA, Dec) ☐ WISE magnitudes (w1, w2, w3, w4)
- ☐ Akari IRC source ☐ Akari IRC coordinates (RA, Dec) ☐ Akari IRC fluxes (S09, S18)
- ☐ Akari FIS source ☐ Akari FIS coordinates (RA, Dec) ☐ Akari FIS fluxes (S65, S90, S140, S160)

Просмотр данных из внешних каталогов, связанных с объектами

View images NEW

- ☐ DSS (optical) ☐ 2MASS (JHK) ☐ WISE (4-22 um) ☐ IRAC (3-8 um) ☐ GLIMPSE 360 (3.6-4.5 um) ☐ PACS color (70-160 um) ☐ SPIRE color (250-500 um)
- ☐ AKARI color (60-160 um) ☐ NVSS (1.4 GHz) ☐ SDSS (optical+NIR) **Image size:** 120 arcsec (default is 120 arcsec)

Get selected data

Просмотр изображений объектов

All objects with any maser lines detected (H_2O or OH or SiO or CH_3OH)

Усреднённые координаты источников

Регистрация мазеров в источнике

Export table to csv

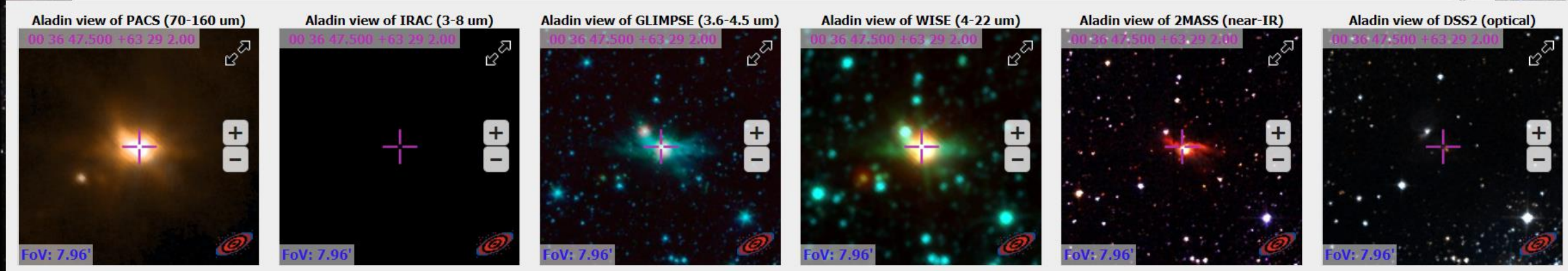
Ссылки на статьи с регистрациями мазеров

Filter Clear

ID	Object id	GC	Object name	Mean RA	Mean Dec	l	b	Detection	References
				deg. (J2000)	deg. (J2000)	(deg.)	(deg.)	Yes/No	
1	108.7-35.56	0	Z Peg	0.0273420	25.8864580	108.7129	-35.5641	-H_2O; -OH; +SiO;	CHO12; TAK01; YUN13; CHO96; NRO_list; LEW94; SIV88;
2	112.2-23.32	0	IRAS 23584+3813	0.2602030	38.5040400	112.2193	-23.3171	+SiO;	DEG16;
3	116.1-6.55	0	Y Cas	0.8316315	55.6841640	116.1407	-6.5519	+H_2O;	TAK94; VAL01;
4	116.1-6.56	0	Y Cas	0.8392665	55.6808080	116.1443	-6.5560	+OH; +SiO;	CHO96; JEW91; KIM10; KIM14; NRO_list; RUD10; SZY99;
5	113.2-21.87	0	SV And	1.0836615	40.1099735	113.2491	-21.8745	-OH; +SiO;	CHO96; JEW91; KIM14; NRO_list; SIV88;
6	114.3-19.04	0	KU And	1.7204170	43.0833330	114.3473	-19.0445	-H_2O; -OH; +SiO;	LEW95A; NRO_list; TAK01;
7	39.9-80.04	0	SY Scl	1.8991790	-25.4934330	39.9153	-80.0436	+H_2O;	TAK94;
8	39.9-80.05	0	SY Scl	1.9013535	-25.4944320	39.9120	-80.0457	+OH; +SiO;	KIM10; KIM14; LEW95A;

Список объектов с просмотром внешних данных и изображений

ID	Object id	GC	Object name	Mean RA	Mean Dec	l	b	Detection	GCVS	Type	Period	SpType	Max	K-[22]	IR excess	IRAS	IRAS F_{12}
				deg. (J2000)	deg. (J2000)	(deg.)	(deg.)	Yes/No			(days)		(mag)	(mag.)			(Jy)
25	119.8-6.05	0	IRAS 00259+5625	7.1909170	56.6855110	119.8047	-6.0485	+H_2O;						6.544	Yes	00259+5625;	0.76
26	120.7+2.69	0	IRAS 00267+6511	7.4020830	65.4638890	120.6660	2.6882	+H_2O;						5.512	Yes	00267+6511;	0.35
27	122.2+19.75	0	AD Cep	7.8601410	82.5951160	122.2482	19.7499	+SiO;	AD Cep;	SR	166	M6.5-M8	10.8	1.527	Yes	00278+8219;	25.00
28	121.5+5.19	0	V0861 Cas	9.1514840	68.0203370	121.5392	5.1887	+SiO;	V0861 Cas;	M			7.5	3.332	Yes	00336+6744;	6.37
29	121.3+0.66	0	V0710 Cas	9.1979170	63.4838890	121.2980	0.6586	+H_2O;	V0710 Cas;	FU			18.6	8.332	Yes	00338+6312;	1.79
30	121.5+3.77	0	IRAS 00340+6619	9.2441670	66.6036110	121.4940	3.7722	+H_2O;						9.962	Yes	00340+6619;	0.29
31	121.3+0.31	0	TY Cas	9.2475830	63.1338035	121.3005	0.3078	+H_2O; -OH; +SiO;	TY Cas;	M	646	M6	10	3.754	Yes	00340+6251;	50.40
32	121.4+1.24	0	IRAS 00342+6347	9.2999375	64.0685920	121.3758	1.2399	+H_2O;						8.791	Yes	00342+6347;	0.25
33	122.4+17.50	0	Y Cep	9.5940210	80.3563910	122.3586	17.4992	-OH; +SiO;	Y Cep;	M	332.57	M5e-M8.2e	8.1	2.041	Yes	00347+8004;	16.50
34	121.7+0.23	0	IRAS 00379+6248	10.2286250	63.0800560	121.7411	0.2326	+H_2O;						7.449	Yes	00379+6248;	0.25
35	303.7-42.42	0	V695 Mon(S)	10.7004170	-74.7000000	303.7034	-42.4153	-H_2O; +H_2O;						4.186	Yes		
36	122.0-7.07	0	IRAS 00420+5530	11.2396670	55.7883250	122.0143	-7.0719	+H_2O;						9.759	Yes	00420+5530;	7.33
37	122.6+12.97	0	IRAS 00420+7533	11.3678320	75.8393030	122.5575	12.9719	-OH; +SiO;						4.768	Yes	00420+7533;	15.10
38	122.4+6.32	0	V0524 Cas	11.4975560	69.1840643	122.4450	6.3175	+H_2O; +OH;	V0524 Cas;	M		S	13.5	4.327	Yes	00428+6854;	71.10
39	122.4+6.31	0	V0524 Cas	11.5005000	69.1815000	122.4460	6.3149	+SiO;	V0524 Cas;	M		S	13.5	4.327	Yes	00428+6854;	71.10
40	122.4-9.30	0	V0414 Cas	12.0416490	53.5669590	122.4398	-9.3017	+SiO;	V0414 Cas;	M	195	M8	14.4	1.770	Yes	00453+5317;	11.70
41	122.7+5.23	0	V0865 Cas	12.2798400	68.0959600	122.7148	5.2252	+SiO;	V0865 Cas;	M			9.7	3.389	Yes	00459+6749;	8.07
42	122.8+2.86	0	IRAS 00468+6527	12.4825830	65.7274310	122.7768	2.8561	+H_2O;						12.816	Yes	00468+6527;	5.72
43	122.8+2.55	0	IRAS 00468+6508	12.4916670	65.4169440	122.7788	2.5456	+H_2O;						8.761	Yes	00468+6508;	0.37
44	122.8-16.36	0	V0415 And	12.6803750	46.5085300	122.8034	-16.3630	-H_2O; -OH; +SiO;	V0415 And;	SRB	460		13	4.582	Yes	00479+4614;	36.70
45	123.1-6.31	0	IRAS 00494+5617	13.1048330	56.5650000	123.0679	-6.3065	+H_2O;						11.681	Yes	00494+5617;	1.80



Список объектов с фильтрацией по параметрам

All objects with any maser lines detected (H_2O or OH or SiO)

View object statistics

Число и доля найденных источников

Export table to csv

Filter | Clear | We found 44 entries from 5018 total (0.88%)

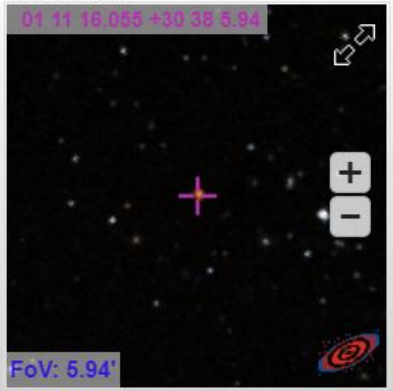
Пример фильтра: тип переменности M, период более 500 дней

ID	Object id	GC	Object name	Mean RA	Mean Dec	l	b	Detection						IR excess	IRAS	IRAS F_{12}	IRA
				deg. (J2000)	deg. (J2000)	(deg.)	(deg.)	Yes/No			(days)		(mag)	(mag.)			(Jy)	(Jy)
										M	>500							
6	114.3-19.04	0	KU And	1.7204170	43.0833330	114.3473	-19.0445	$-H_2O$; -OH; +SiO;	KU And;	M	660	M10	6.5	4.107	Yes	00042+4248;	476.00	
31	121.3+0.31	0	TY Cas	9.2475830	63.1338035	121.3005	0.3078	$+H_2O$; -OH; +SiO;	TY Cas;	M	646	M6	10	3.754	Yes	00340+6251;	50.40	
53	128.6-50.11	0	WX Psc	16.6083280	12.5980560	128.6418	-50.1074	$+H_2O$; +OH; +SiO;	WX Psc;	M	660	M8	0.9	5.694	Yes	01037+1219;	1160.00	
63	125.1+9.86	0	S Cas	19.9267870	72.6108330	125.0708	9.8566	$-H_2O$; +SiO;	S Cas;	M	608.2	S3,4e-S5,8e	7.9	4.126	Yes	01159+7220;	342.00	
171	144.5+3.57	0	LL Cam	57.7704850	58.7069140	144.4888	3.5697	+SiO;	LL Cam;	M	617		9.3	3.784	Yes	03469+5833;	7.34	
245	152.8+8.57	0	TX Cam	75.2112500	56.1815280	152.8377	8.5677	-OH; +SiO;	TX Cam;	M	558.7	M8-M10	7.8	3.826	Yes	04566+5606;	1640.00	
252	156.4+7.83	0	NV Aur	77.8308330	52.8760300	156.4377	7.8350	$-H_2O$; $+H_2O$; +OH;	NV Aur;	M	635	M10	3.6	7.054	Yes	05073+5248;	227.00	
253	156.4+7.84	0	NV Aur	77.8310580	52.8760310	156.4377	7.8350	+SiO;	NV Aur;	M	635	M10	3.6	7.054	Yes	05073+5248;	227.00	
335	181.8-0.59	0	AW Tau	86.8652545	27.1260100	181.7579	-0.5930	$+H_2O$;	AW Tau;	M	654.4	M9	13.2	2.569	Yes	05443+2707;	19.70	
336	181.8-0.58	0	AW Tau	86.8768750	27.1363085	181.7545	-0.5789	+OH; +SiO;	AW Tau;	M	654.4	M9	13.2	2.569	Yes	05443+2707;	19.70	
346	164.2+11.70	0	LO Aur	89.3497095	48.3782630	164.1961	11.6991	$+H_2O$; +SiO;	LO Aur;	M	505	M9	11.7	3.333	Yes	05535+4822;	40.90	
351	173.2+7.27	0	V0373 Aur	89.8532663	38.4273158	173.2392	7.2669	$-H_2O$; +SiO;	V0373 Aur;	M	590	M9	1	4.433	Yes	05559+3825;	118.00	
354	139.4+22.90	0	V Cam	90.6345765	74.5075280	139.3942	22.8971	$+H_2O$; -OH; +SiO;	V Cam;	M	516.3	M7e	7.3	3.668	Yes	05559+7430;	203.00	
420	245.8-16.91	0	CH Pup	101.3083330	-36.5366670	245.8482	-16.9071	+OH;	CH Pup;	M	505.5	Me	7.9	3.361	Yes	06434-3628;	47.70	
427	205.6+4.12	0	GX Mon	103.1892500	8.4222640	205.5727	4.1205	$+H_2O$;	GX Mon;	M	527	M9	13.2	4.611	Yes	06500+0829;	601.00	
429	205.6+4.13	0	IRAS 06500+0829	103.1954590	8.4219440	205.5758	4.1259	$+H_2O$; +OH; +SiO;	GX Mon;	M	527	M9	13.2	4.611	Yes	06500+0829;	601.00	
495	235.9-0.69	0	Z Pup	113.1585830	-20.6580680	235.9044	-0.6864	$+H_2O$; +OH; +SiO;	Z Pup;	M	508.6	M4e-M9e	7.2	4.148	Yes	07304-2032;	123.00	
499	239.1-1.81	0	DU Pup	113.7665815	-23.9874710	239.0907	-1.8061	$+H_2O$; +SiO;	DU Pup;	M	550	M	13.5	4.978	Yes	07329-2352;	134.00	
500	239.1-1.80	0	IRAS 07329-2352	113.7695815	-23.9886105	239.0930	-1.8043	$-H_2O$; +OH;	DU Pup;	M	550	M	13.5	4.978	Yes	07329-2352;	134.00	
572	255.8+23.35	0	IW Hya	146.3130185	-22.0291975	255.7956	23.3525	$-H_2O$; $+H_2O$; +OH; +SiO;	IW Hya;	M:	650	M9	1	4.924	Yes	09429-2148;	605.00	
576	221.4+45.06	0	CW Leo	146.9858125	13.2785970	221.4448	45.0574	$+H_2O$; -OH;	CW Leo;	M	630	C9.5	10.96	5.265	Yes	09452+1330;	47500.00	

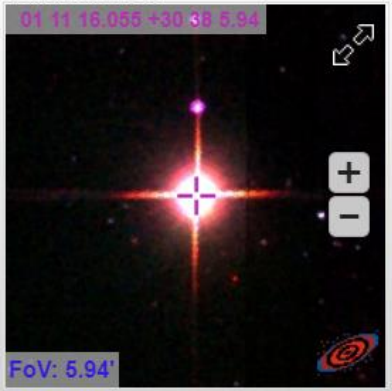
Подробная информация о каждом объекте

Source IRAS 01085+3022 (17.816896, 30.634982)

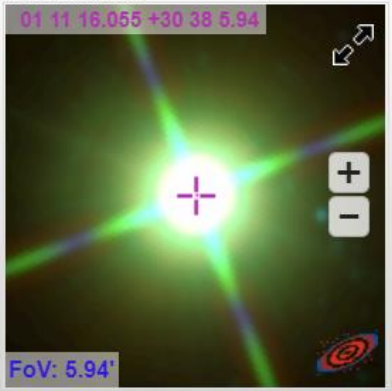
DSS colored



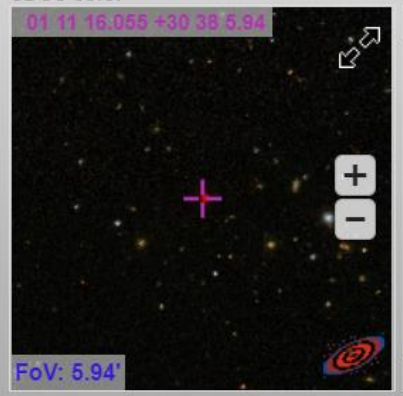
2MASS colored



WISE colored



SDSS color



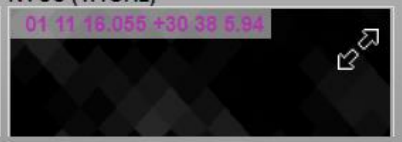
IRAC color I1,I2,I4

GLIMPSE 360

PACS color (70-160 um)

SPIRE color (250-500 um)

NVSS (1.4GHz)



Maser observations

Tip: Green is detection,
Red is non-detection

Hide / Show individual components

H_2O maser observations within 60"

Peak	Vpeak	Dist.	Ref
0.00E+00 Jy,	-39.3 km/s,	1.1"	[VAL01] Go
MHz		12.4"	[TAK94] Go
σ=0.400 Jy,		1.1"	[TAK01] Go

OH maser observations within 60"

Peak	Vpeak	Dist.	Ref
1667 MHz, 0.045 Jy,	-42.2 km/s,	2.0"	[LEW97] Go
1612 MHz, 0.028 Jy,	-39.8 km/s,	2.0"	[LEW94] Go
1665 MHz		2.0"	[LEW97] Go

SiO maser observations within 60"

Peak	Vpeak	Dist.	Ref
J=1-0 v=1, 3 K,	-39 km/s,	1.6"	[NRO_list; NRO] Go

Associated data

Variable star:

AW Psc (click to go)

VarType: M
Period: days
SpType:
MagMax = 14.7^m

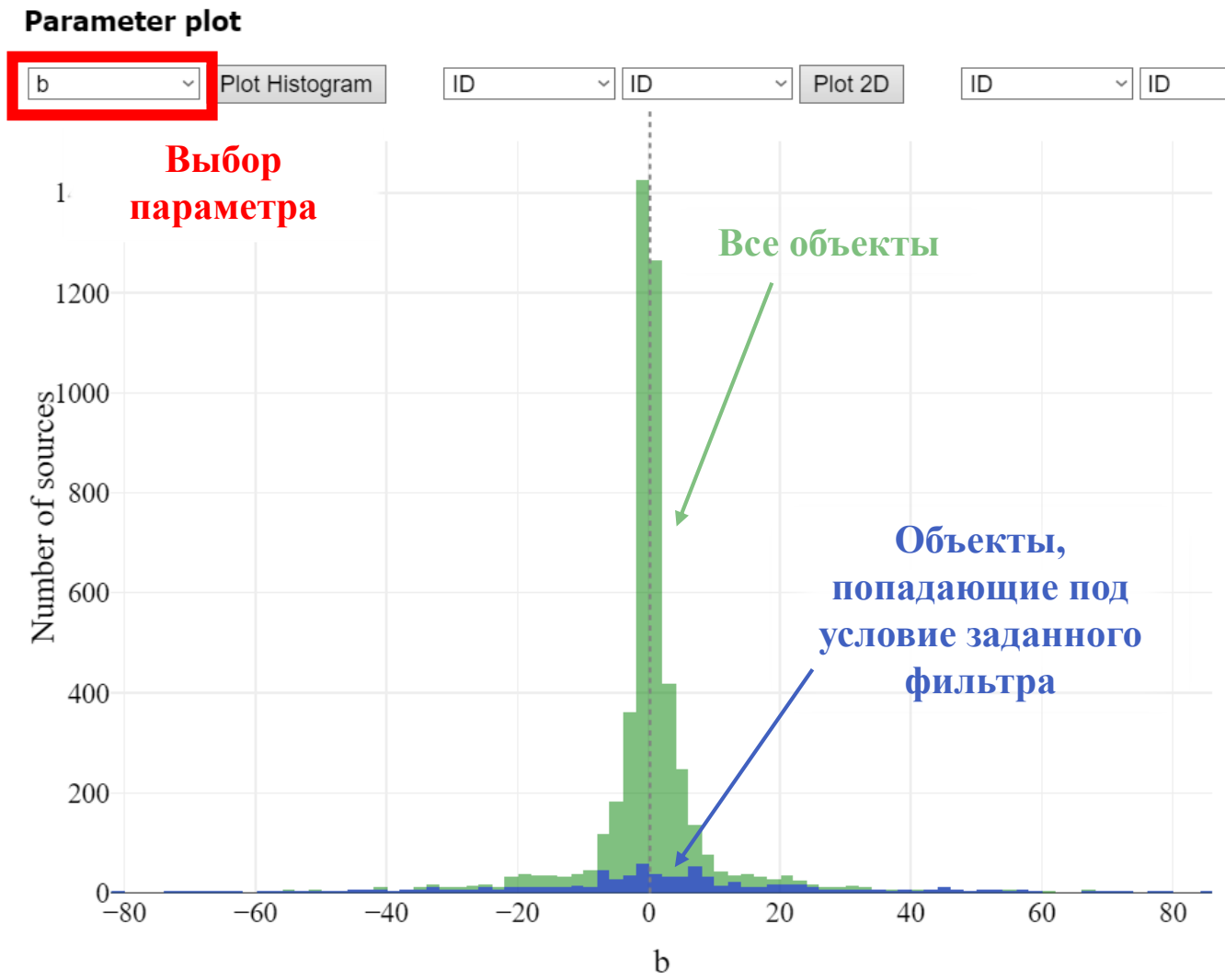
IRAS source(s):

01085+3022 (click to go)

F_{12} = 165.00 Jy

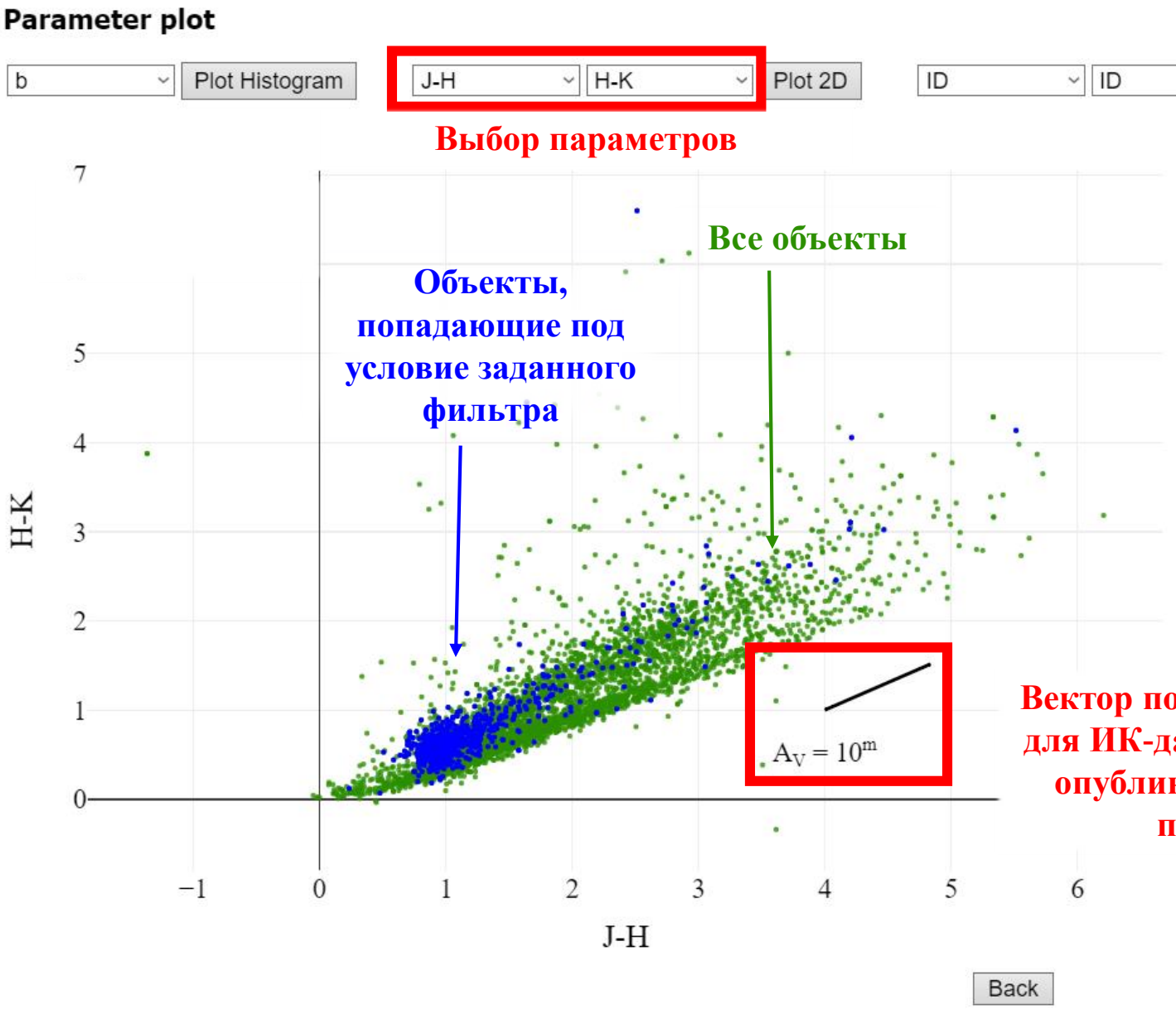
500	239.1-1.80	0	IRAS 07329-2352	113.7695815	-23.9886105	239.0930	-1.8043	-H_2O; +OH;	DU Pup;	M	550	M	13.5	4.978	Yes	07329-2352;	134.00
572	255.8+23.35	0	IW Hya	146.3130185	-22.0291975	255.7956	23.3525	-H_2O; +H_2O; +OH; +SiO;	IW Hya;	M:	650	M9	1	4.924	Yes	09429-2148;	605.00
576	221.4+45.06	0	CW Leo	146.9858125	13.2785970	221.4448	45.0574	+H_2O; -OH;	CW Leo;	M	630	C9.5	10.96	5.265	Yes	09452+1330;	47500.00

Построение распределения (гистограммы) любого параметра



Доступные параметры:
Mean RA, Dec
l,b
GCVS Period, MagMax,
2MASS J, H, K, (J-H), (H-K), (K-[22])
WISE [3.4], [4.6], [12], [22], [3.4]-[12], [4.6]-[22], [3.4]-[4.6], [12]-[22]
IRAS F12, F25, F60, F100, [12]-[25], [25]-[60]
Akari S09, S18, S65, S90, S140, S160, [09]-[18], [18]-[65]

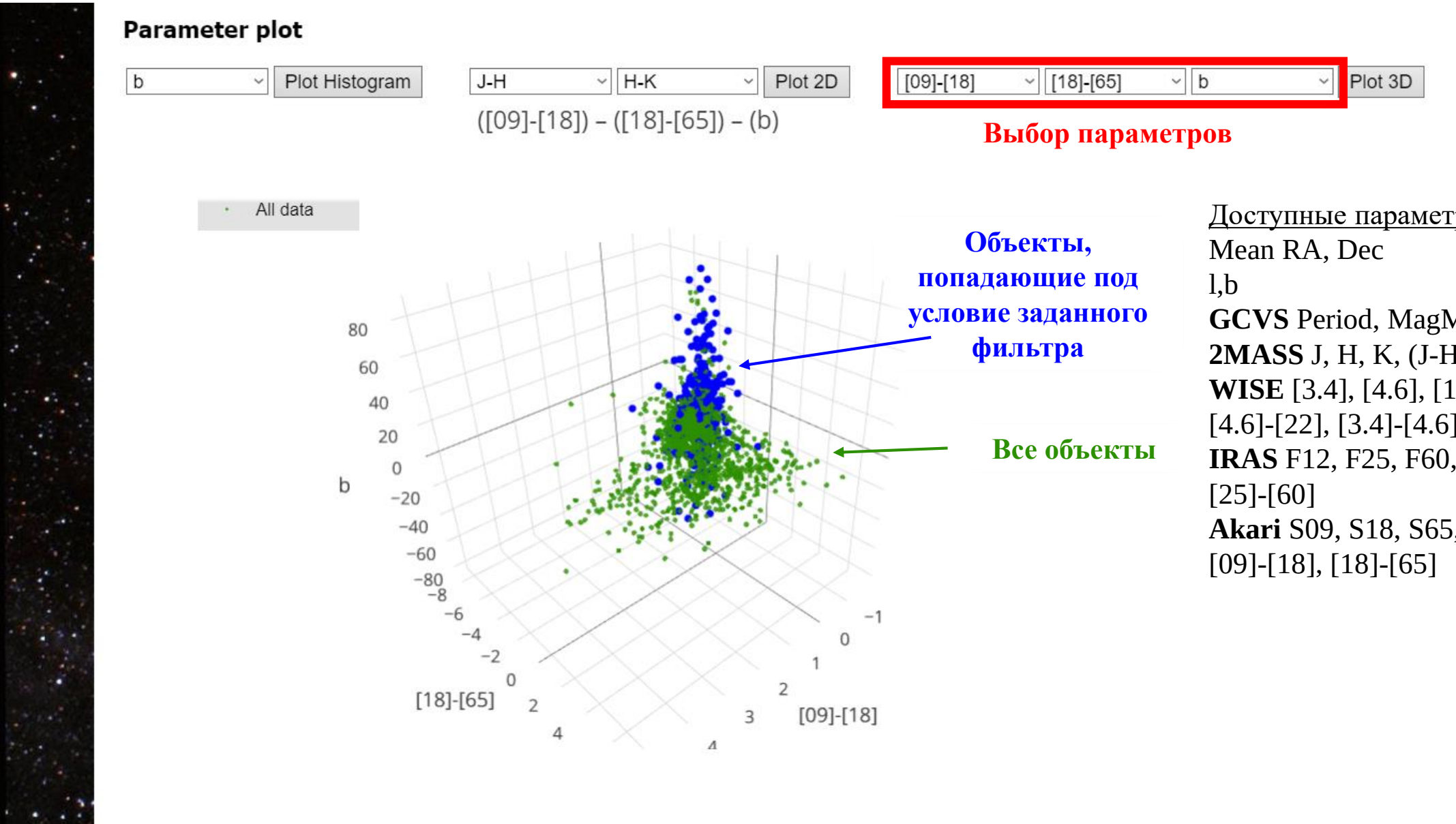
Построение 2D-диаграмм любых параметров



Доступные параметры:
Mean RA, Dec
l,b
GCVS Period, MagMax,
2MASS J, H, K, (J-H), (H-K), (K-[22])
WISE [3.4], [4.6], [12], [22], [3.4]-[12], [4.6]-[22], [3.4]-[4.6], [12]-[22]
IRAS F12, F25, F60, F100, [12]-[25], [25]-[60]
Akari S09, S18, S65, S90, S140, S160, [09]-[18], [18]-[65]

Вектор поглощения (доступен для ИК-данных, для которых опубликованы измерения поглощения)

Построение 3D-диаграмм любых параметров



Доступные параметры:
Mean RA, Dec
l,b
GCVS Period, MagMax,
2MASS J, H, K, (J-H), (H-K), (K-[22])
WISE [3.4], [4.6], [12], [22], [3.4]-[12], [4.6]-[22], [3.4]-[4.6], [12]-[22]
IRAS F12, F25, F60, F100, [12]-[25], [25]-[60]
Akari S09, S18, S65, S90, S140, S160, [09]-[18], [18]-[65]

Статистические характеристики объектов

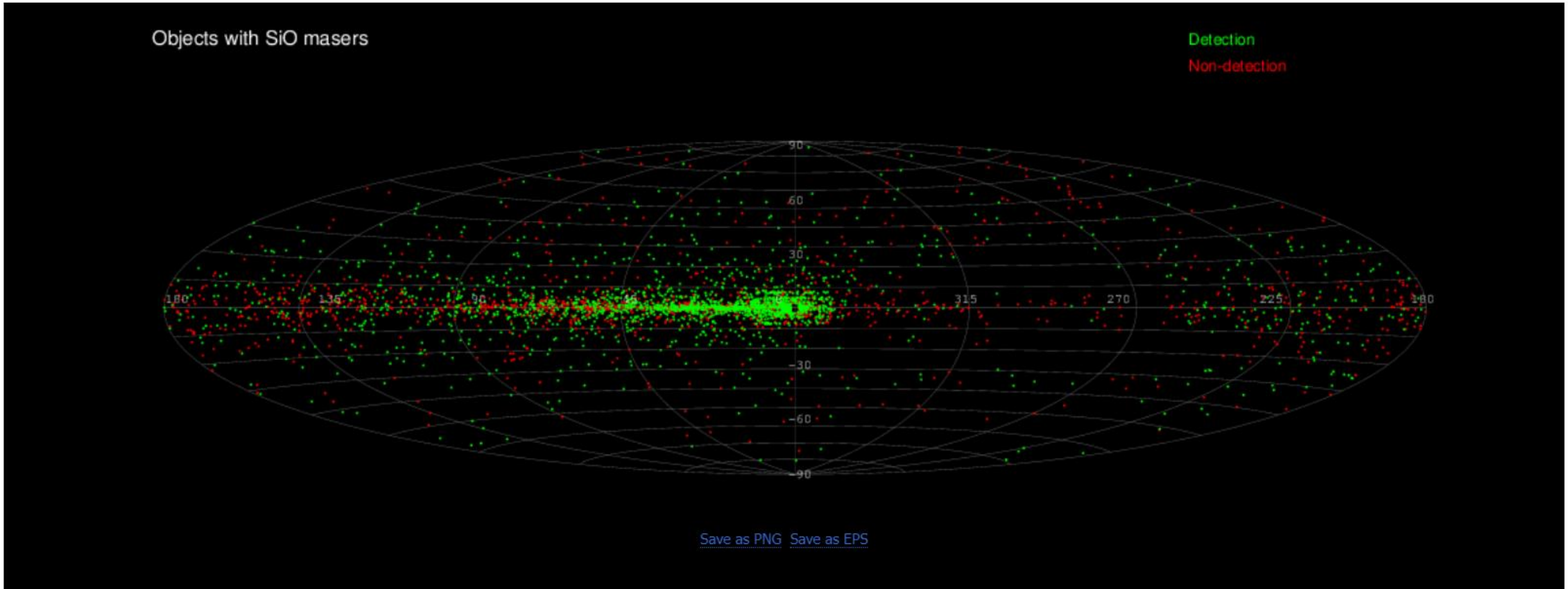
List of Objects with SiO masers

Detection table: Show table or display table in LaTeX (using aastex.cls file)
Non-detection table: Show table, LaTeX

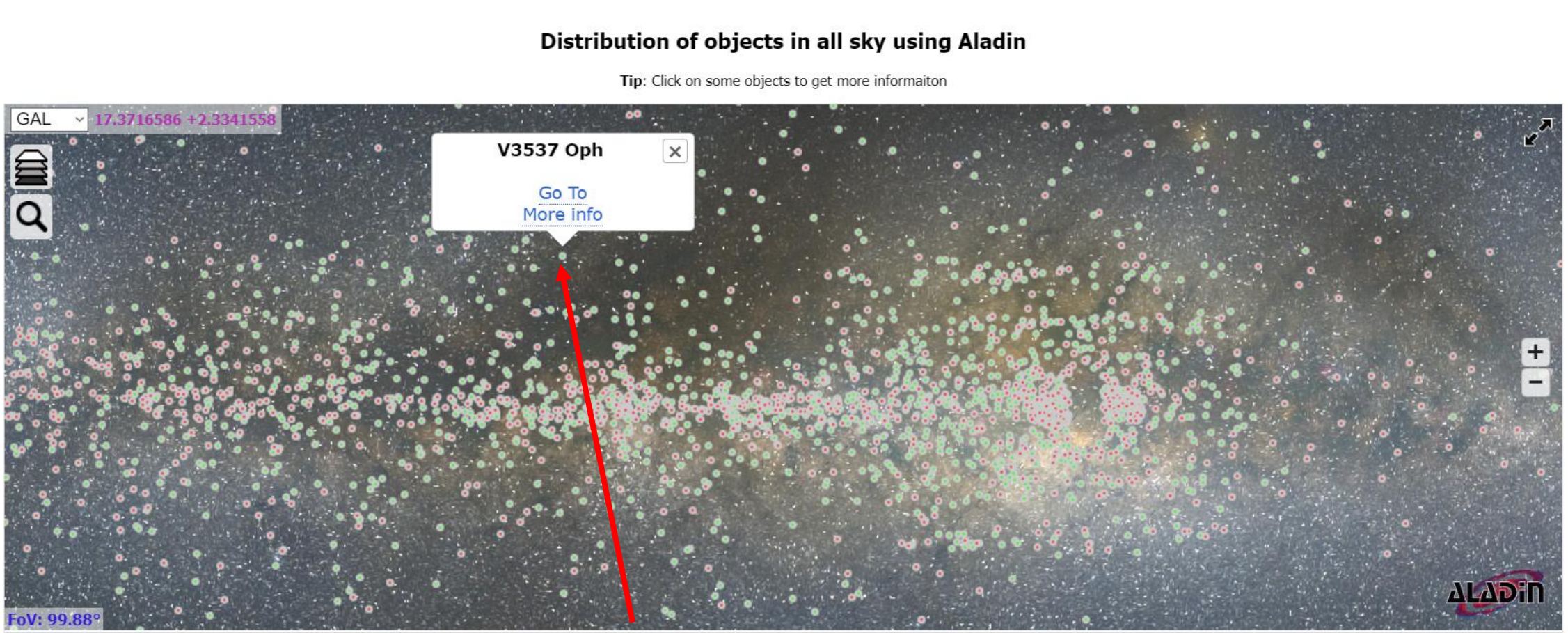
View object list only

Распределение регистраций мазеров в плоскости галактики в виде картинки форматов PNG/EPS

Distribution of objects in all sky (l,b)

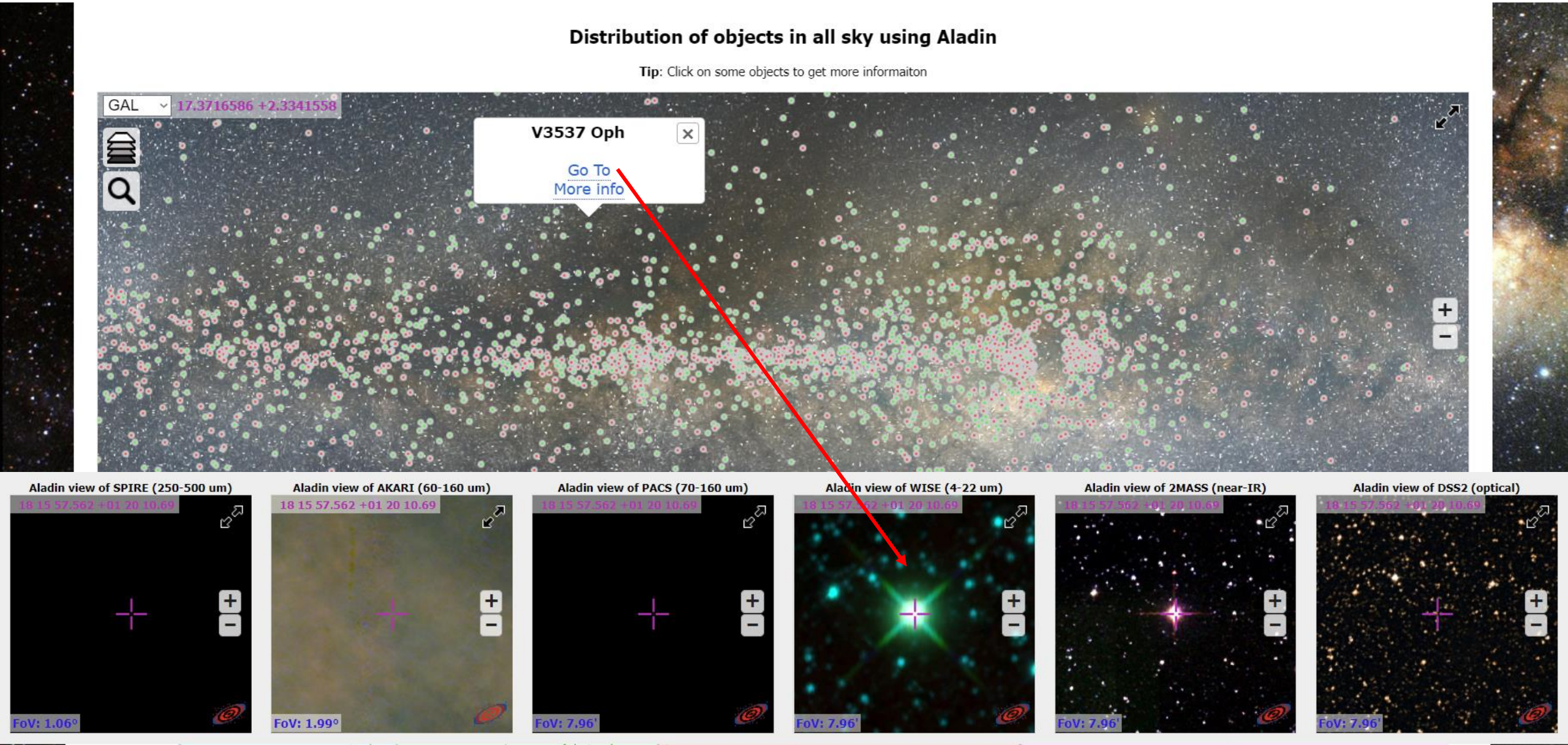


Статистические характеристики объектов

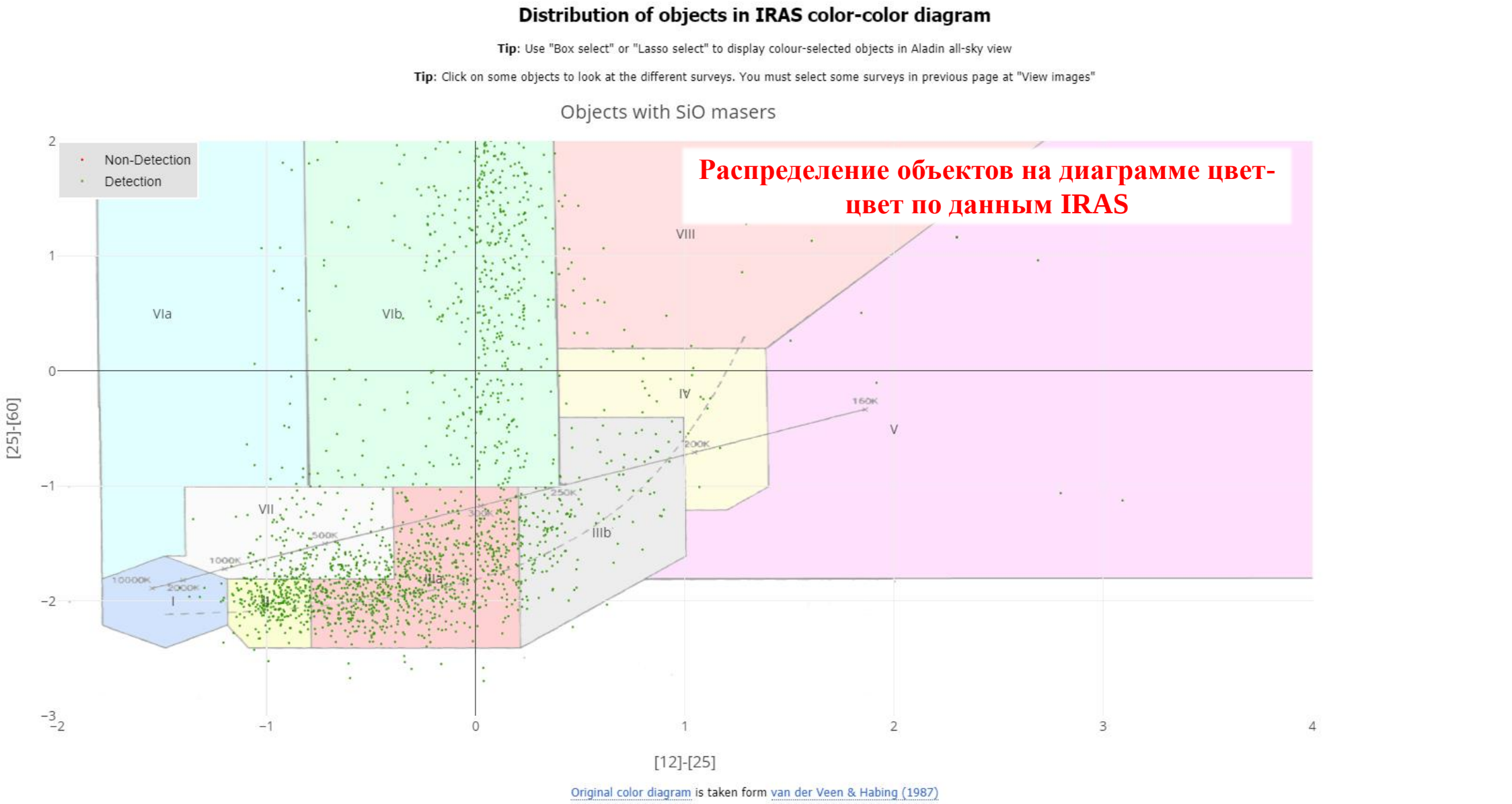


**Аналогичное распределение регистраций мазеров,
но с возможностью кликнуть на каждый источник
и посмотреть информацию о нём**

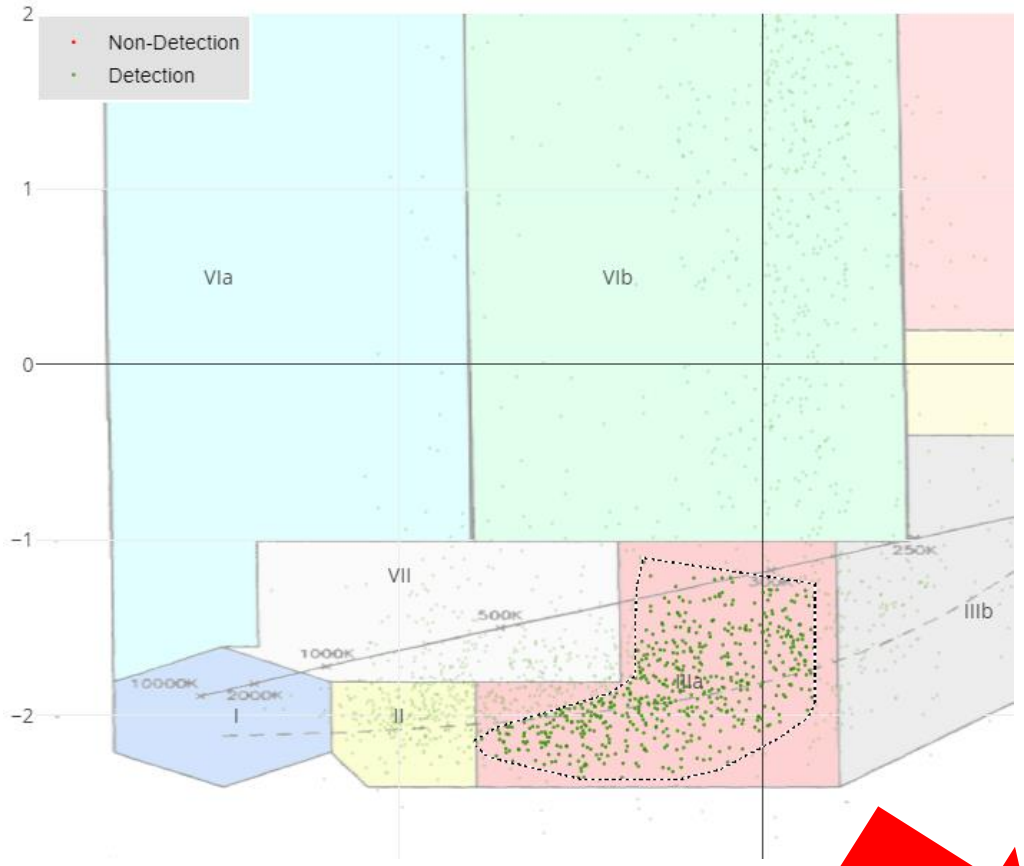
Статистические характеристики объектов



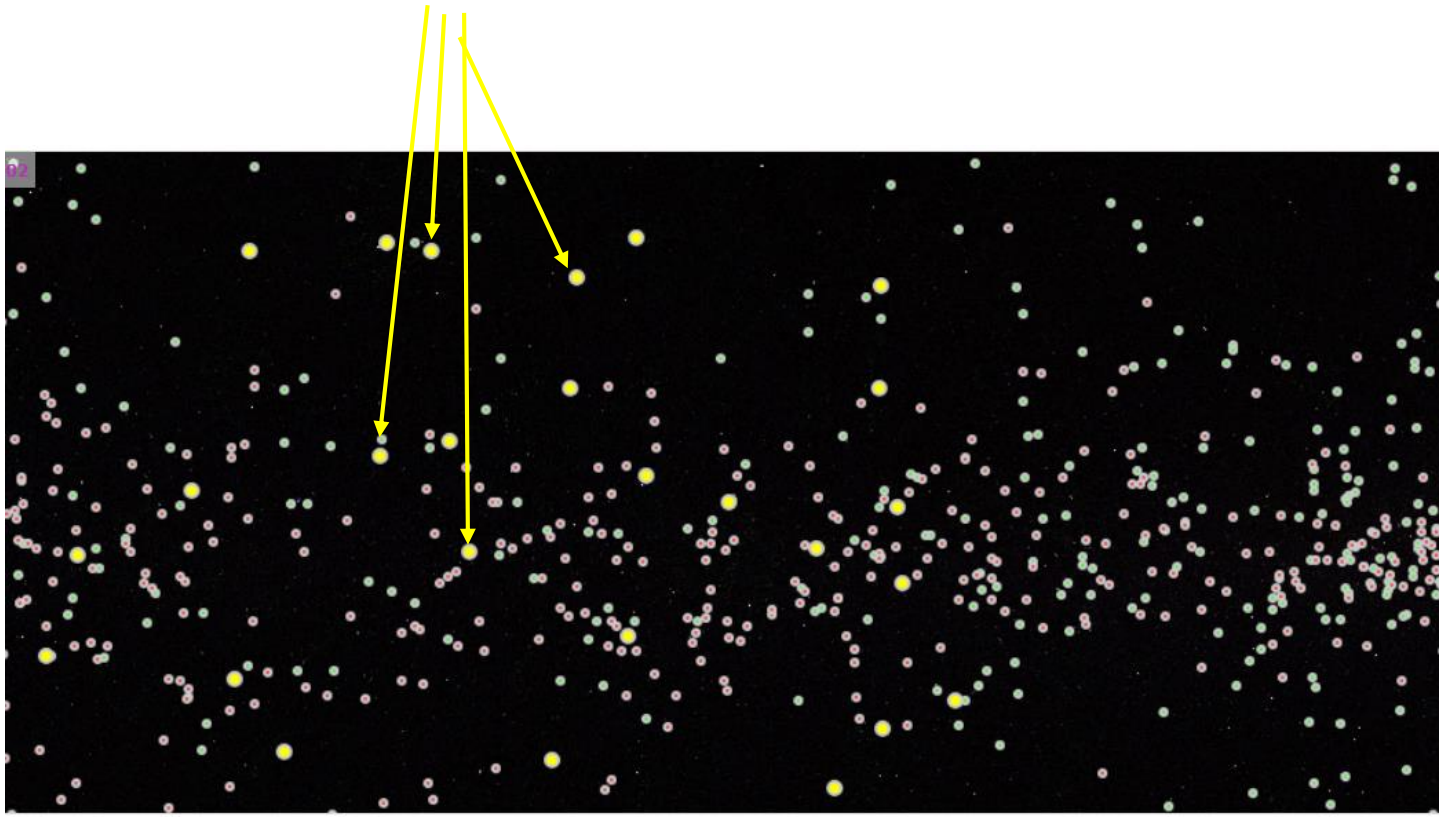
Статистические характеристики объектов



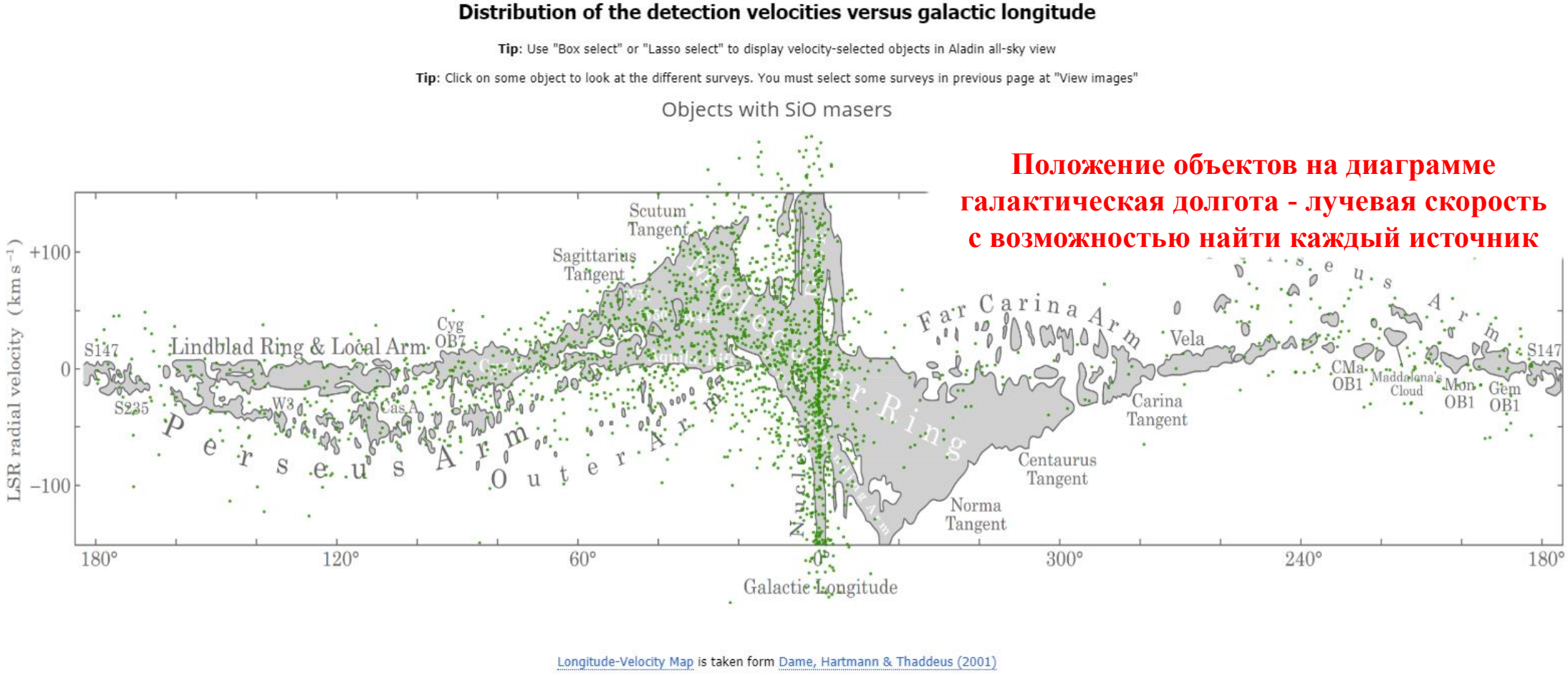
Статистические характеристики объектов



Выделение границ на цветовой диаграмме с помощью инструмента «лассо» приводит к отображению положений выбранных объектов на галактической плоскости



Статистические характеристики объектов



Положение объектов на диаграмме галактическая долгота - лучевая скорость с возможностью найти каждый источник

Возможность скачать все возможные данные

the Extensive Database of Astrophysical Maser Sources

Download data from database

Use this form to download data in CSV or ASCII format

All observations list

This list of masers corresponds to the **observations** (detections/non-detections) of masers in different papers. Single maser source may be observed (detected or not detected) in many papers.

If you need the full list of maser observations, choose this one.

Molecule	Table (CSV)	Spectra (ASCII)	Detections	Non-detections	Spectra
H_2O	Download	Download	3400	4184	154
OH	Download	Download	5767	8754	1
SiO	Download	Download	5713	4040	3016
CH_3OH (I class)	Download	Download			
CH_3OH (II class)	Download	Download			

All objects list

In comparison with the "All observations list", this list of masers corresponds to the **objects**, where all maser observations is combined to the objects using their coordinates. All detections and non-detections of some single maser in this list combined to the one maser "object".

If you need the list of all known masers, choose this one.

Molecule	List (CSV)	Objects count	Analysis
H_2O	Download	4329	Go to the list analysis
OH	Download	6707	Go to the list analysis
SiO	Download	4158	Go to the list analysis
CH_3OH (I class)	Download		Go to the list analysis
CH_3OH (II class)	Download		Go to the list analysis
All known maser objects	Download	11733	Go to the list analysis

Compilation papers

ID	Ref.	Short title	Table (CSV)	Data type	Detections	Non detect.