

# 木曾シュミット乾板デジタル化データの公開

## -- 乾板のデジタル化

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小林尚人，樽澤賢一，森由貴（東京大学），  
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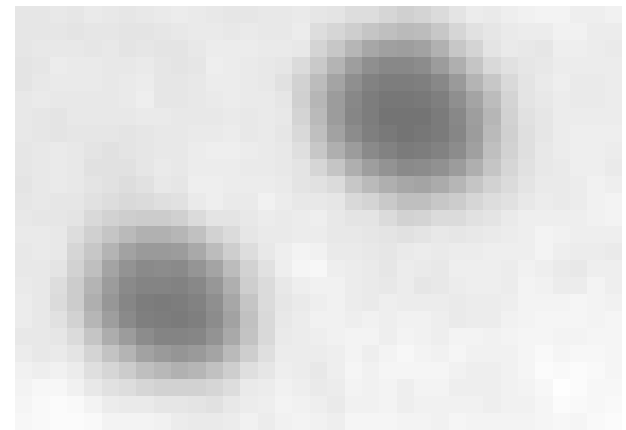
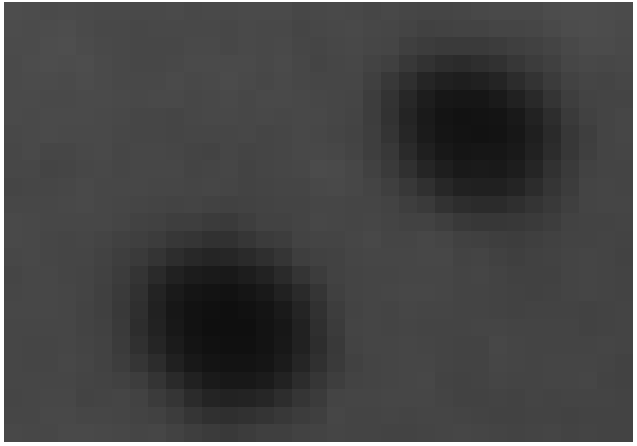
2019年7月9,10日

シュミットシンポジウム

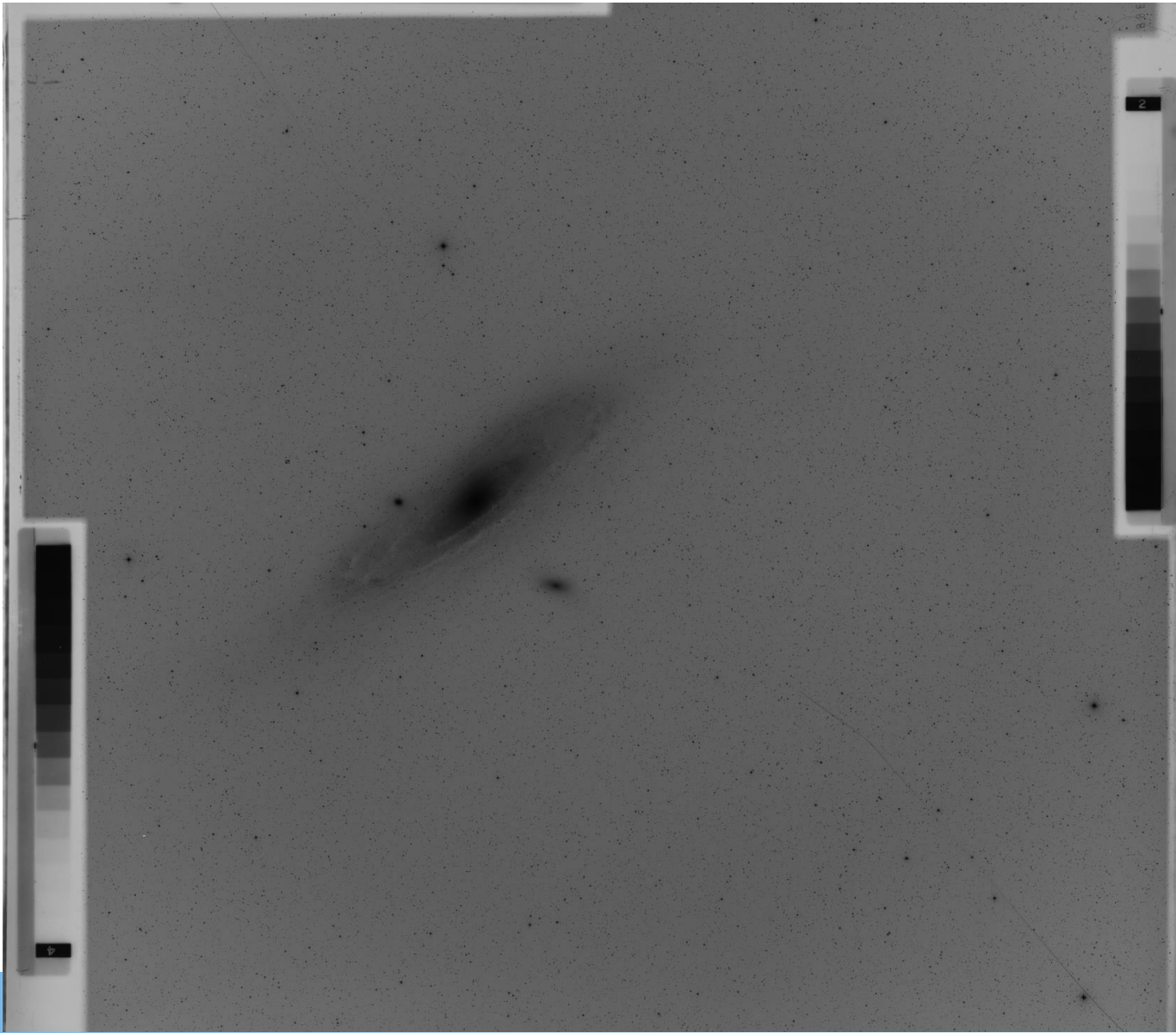
# 研究の概要

- [目的] 過去の写真データをデジタル化して各種の研究に容易に利用できるようにする。合わせて多数の乾板の保存の問題を解決し、画像データの劣化や消失を防ぐ。
- [方法] A3判フラットベッドスキャナを用い透過光方式で乾板をスキャン、デジタル化する。大型乾板は、4つのウェッジの内2つをカットすればA3判でほぼすべてを取り込むことができる。解像度を1200dpiとすると、データ量は大型乾板1枚のtiff画像約230MB。

# スキャンイメージ



1.5" / pix



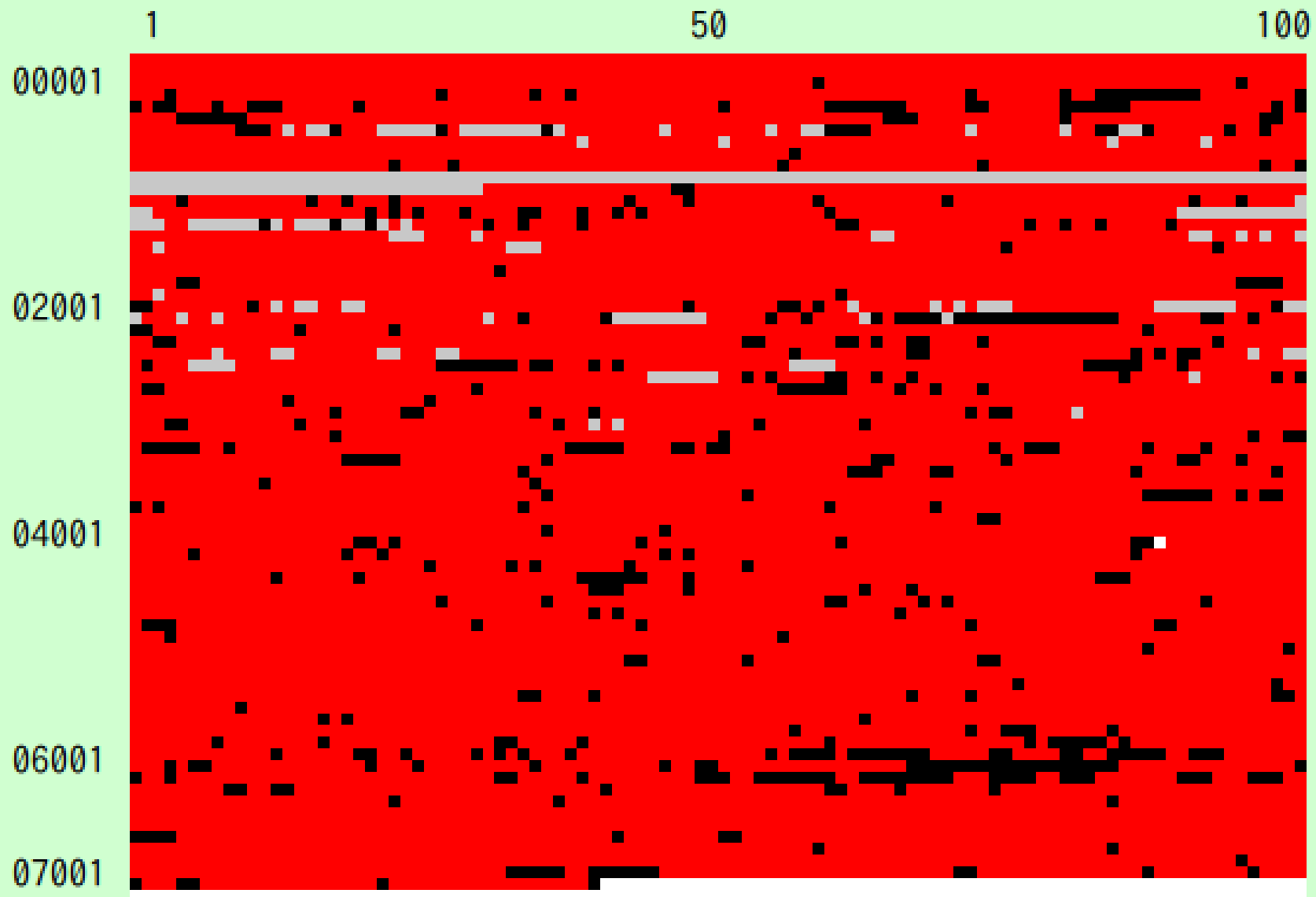
# A3判フラットベッドスキャナ



# これまでの経過

- 2015年8月に試験スキャンを実施.
- 同9月に課題申請を行い, スキャン開始.
- 2016年4月, 共同利用報告書提出.
- 2017年秋より, 外部委託によるスキャン開始.
- 2019年3月, 7039枚のすべての作業を終了.

# スキャン状況

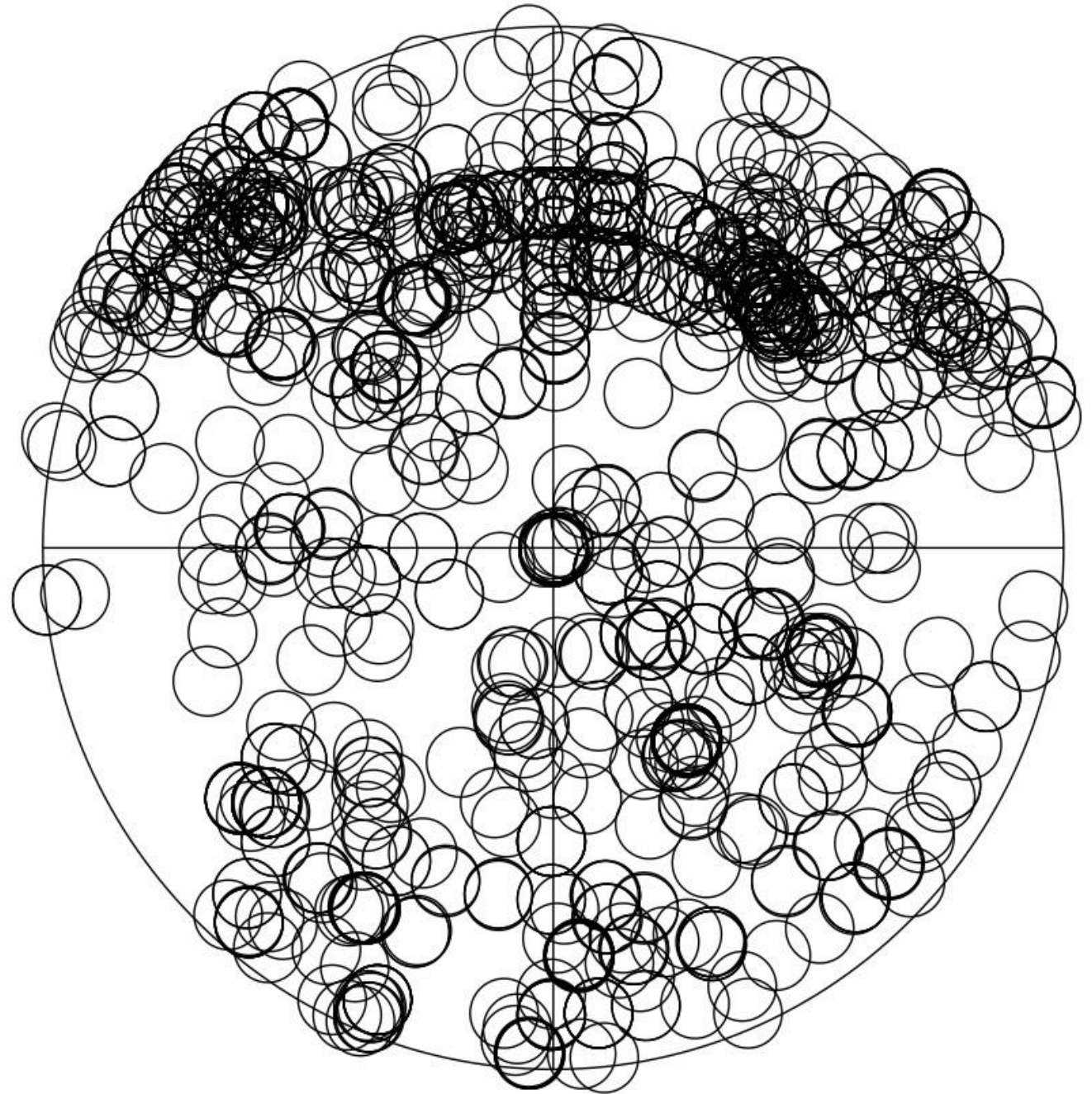


# デジタル化作業の全状況

- シュミット乾板リストに掲載されている枚数： 7,040
- 欠番，紛失，および望遠鏡の光学試験用の撮像乾板など，スキンを省略した枚数： 536
- 特殊目的のために手札判乾板，またはフィルムで撮影されており，スキンを省略した枚数： 235
- 星像が全く写っていないため，スキンを省略した枚数： 33
- スキンをを行った枚数：  
 $7,040 - 536 - 235 - 33 = 6,236$



# 北天 ( $90^{\circ} \sim 45^{\circ}$ )



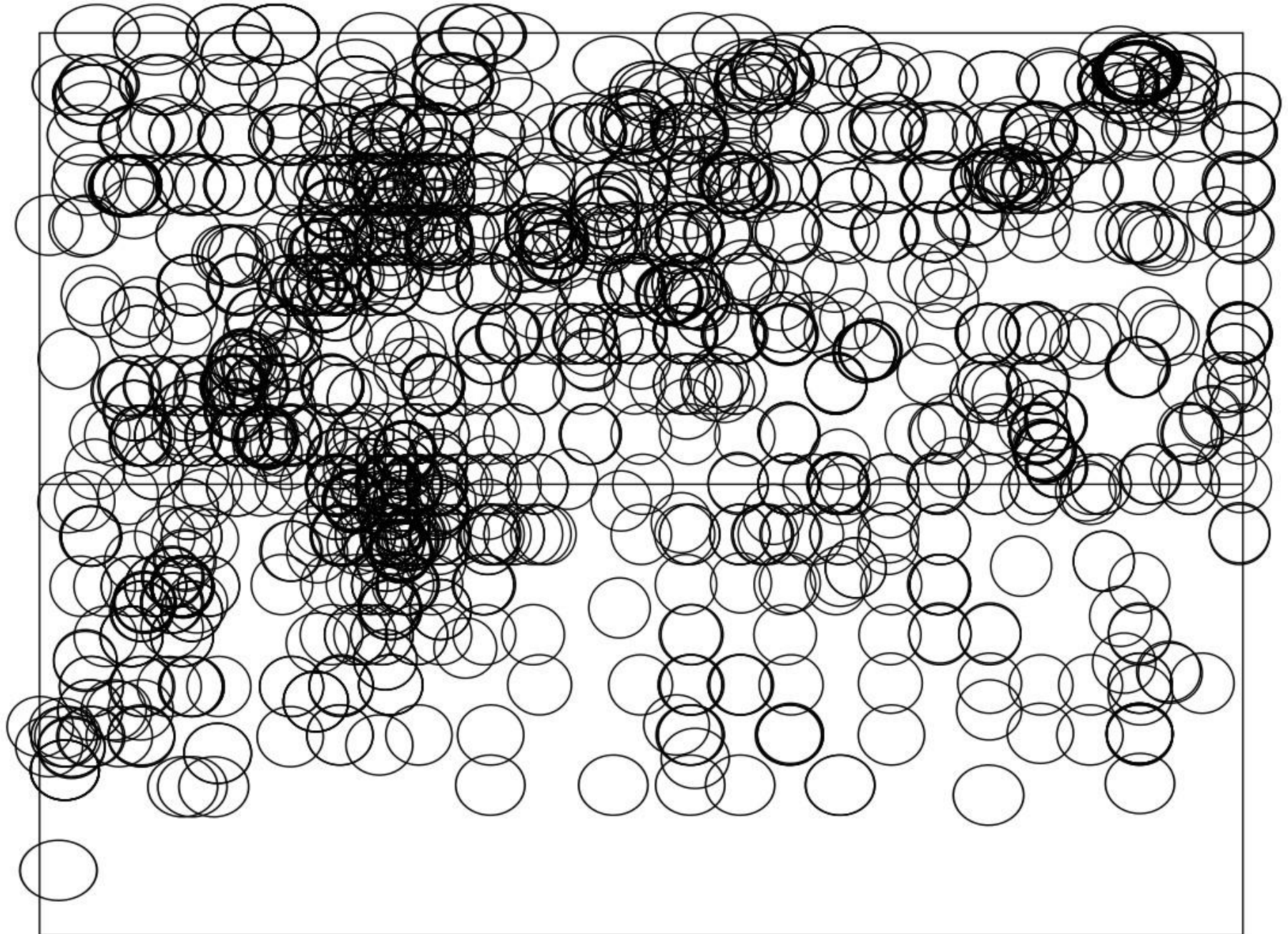




ステラナビゲータにより作成

$-45^\circ \sim +45^\circ$

0h ~ 8h



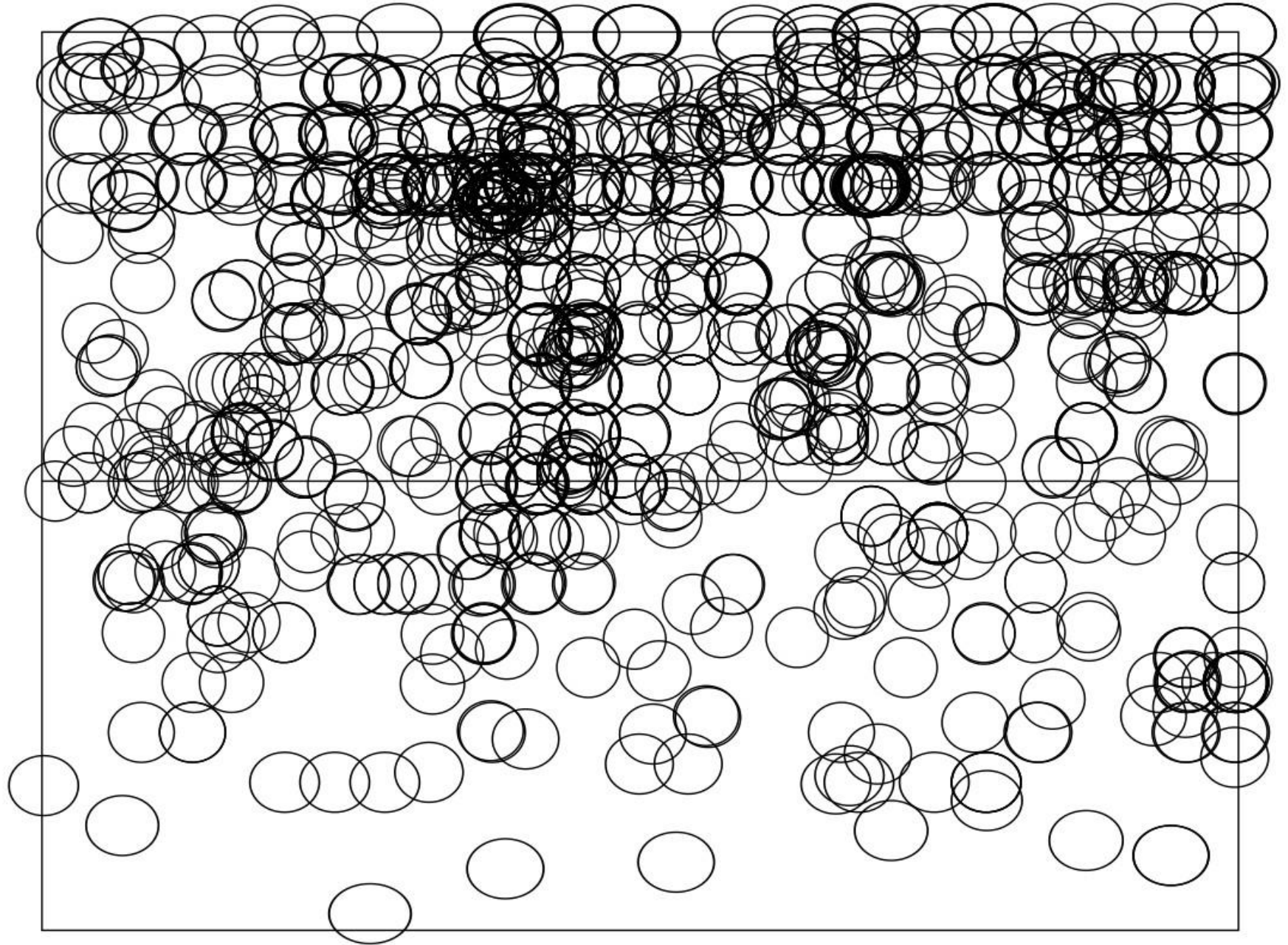




ステラナビゲータにより作成

$-45^{\circ} \sim +45^{\circ}$

8h ~ 16h



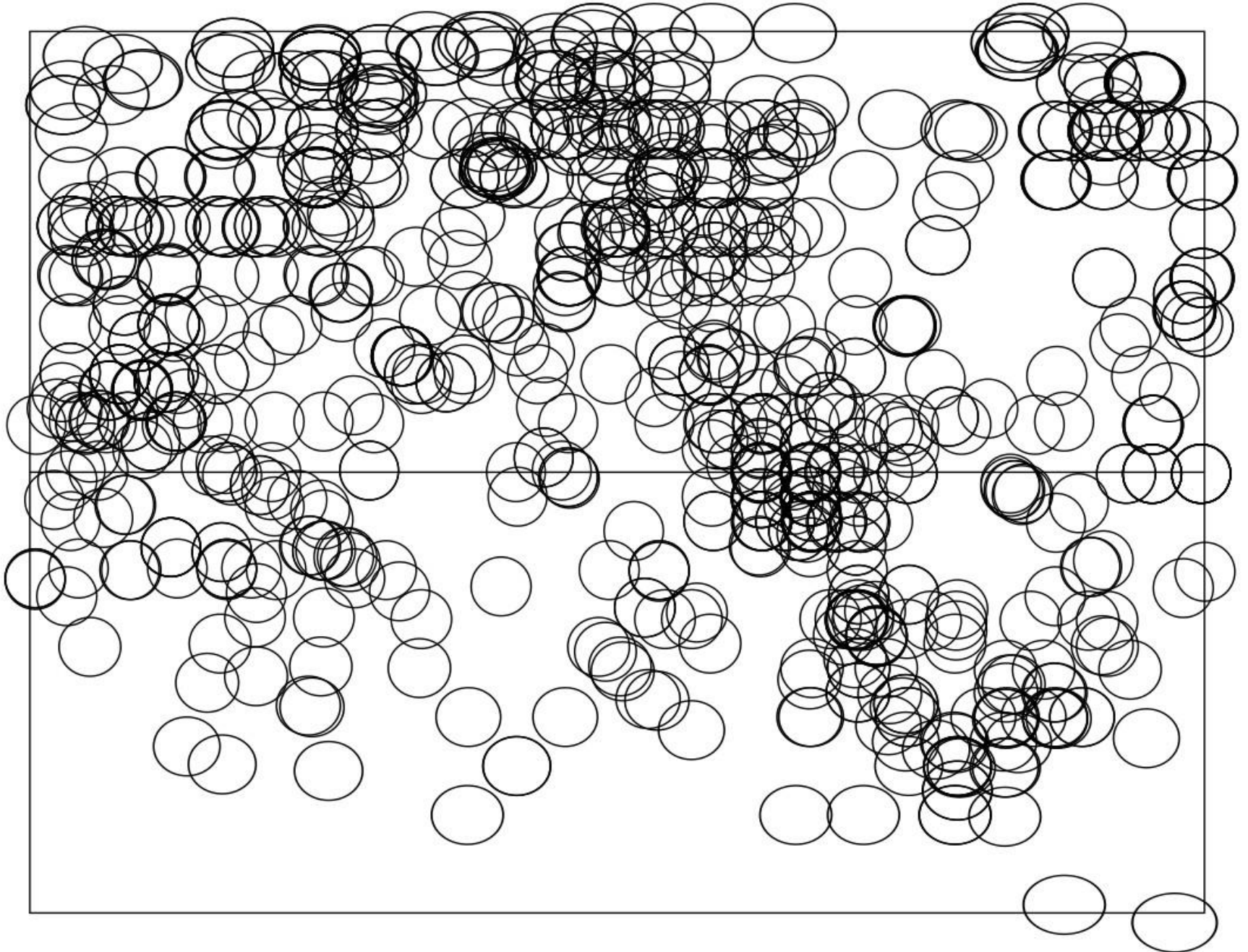




ステラナビゲータにより作成

$-45^\circ \sim +45^\circ$

16h ~ 24h







ステラナビゲータにより作成

# 目的天体探査の request (No.1)

## WS Sge (激変星)

### Basic data :

### V\* WZ Sge -- Dwarf Nova

Other object types: UV (), DN\* (), \* (CSI,GCRV,...), X (2E,1ES,...), WD\* (EGGR,WD), V\* (V\* (NOVA), Em\* (EM\*), PM\* (Ref), IR (2MASS), blu (FB)

**ICRS** coord. (*ep*=J2000) : 20 07 36.5036203067 +17 42 14.733657651 (Optical) [ 0.0266 0.0201

**FK4** coord. (*ep*=B1950 *eq*=1950) : 20 05 20.5538096838 +17 33 30.512010640 [ 0.0266 0.0201 90 1

**Gal** coord. (*ep*=J2000) : 057.5366662069740 -07.9298235893077 [ 0.0266

Proper motions *mas/yr* : 71.635 -24.348 [0.058 0.045 90] A 2018yCat.

Radial velocity / Redshift / *cz* : V(km/s) 62.3 [~] / *z*(~) 0.000208 [~] / *cz* 6  
E 1995A&AS...114...269D

Parallaxes (*mas*): 22.1564 [0.0395] A 2018yCat.1345....0G

Spectral type: DAepv E ~

Fluxes (6) : B 15.30 [~] E ~

V 15.20 [~] E ~

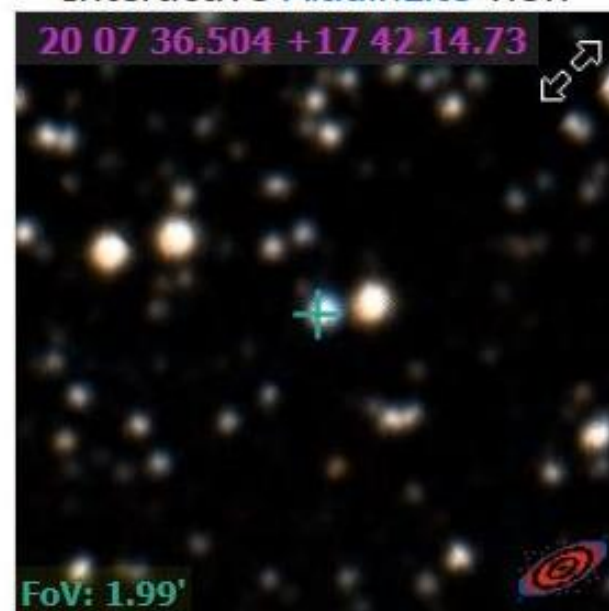
G 15.2103 [0.0034] C 2018yCat.1345....0G

J 14.862 [0.041] C 2003yCat.2246....0C

H 14.557 [0.049] C 2003yCat.2246....0C

K 13.998 [0.057] C 2003yCat.2246....0C

### Interactive AladinLite view

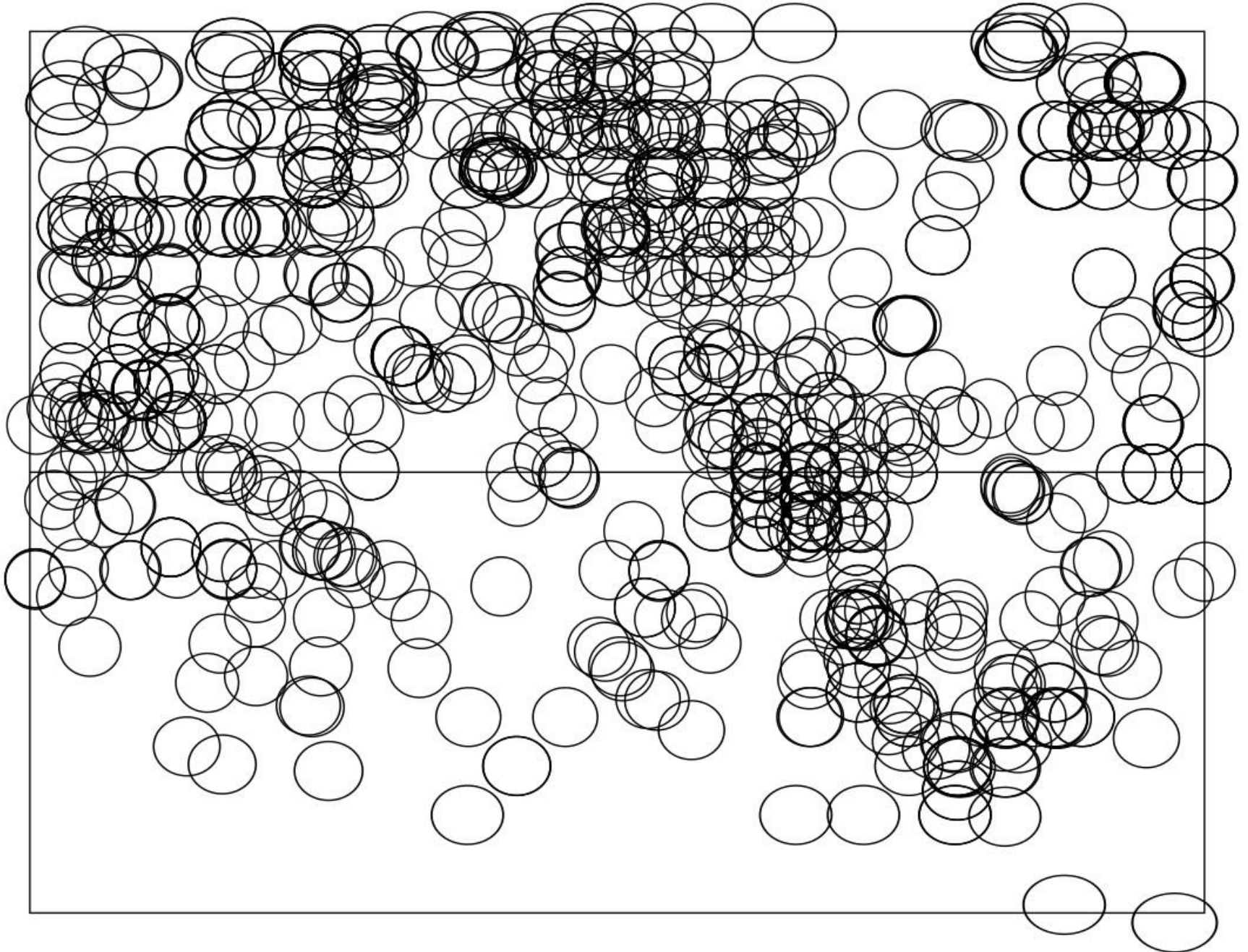


2MASS  DSS  SDSS



$-45^\circ \sim +45^\circ$

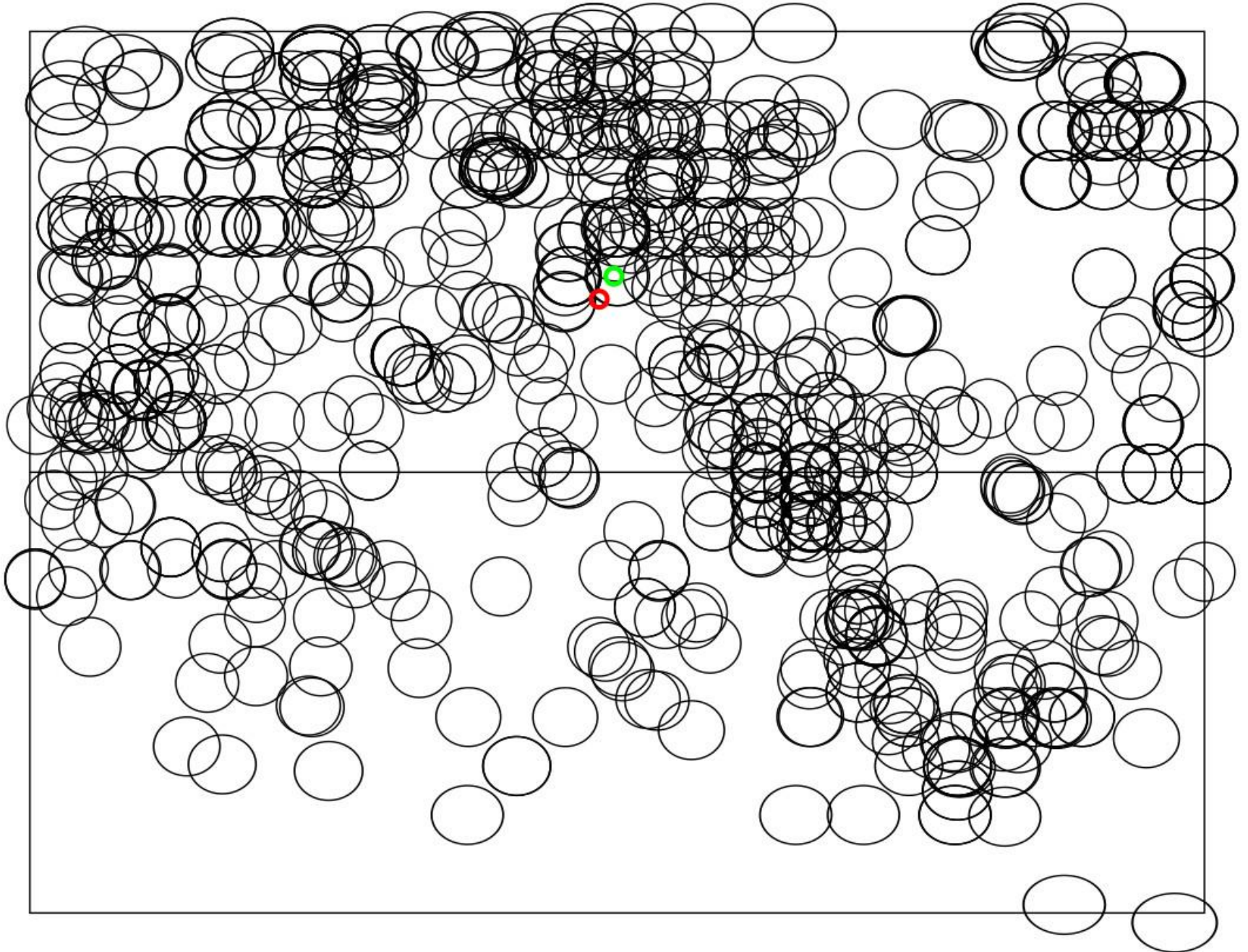
16h ~ 24h





$-45^\circ \sim +45^\circ$

16h ~ 24h

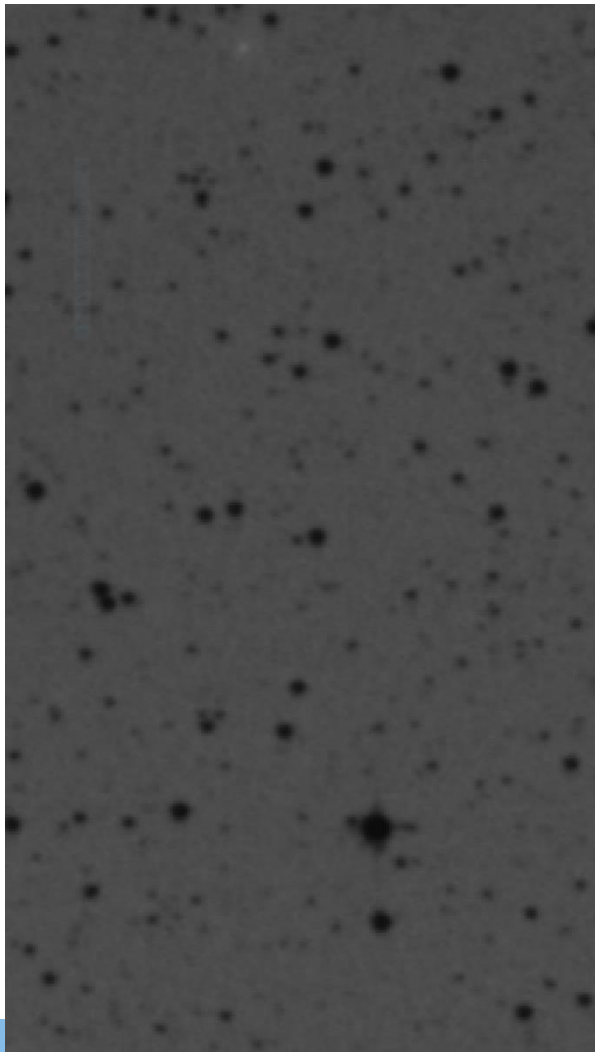


# 目的天体探査の request (No.1)

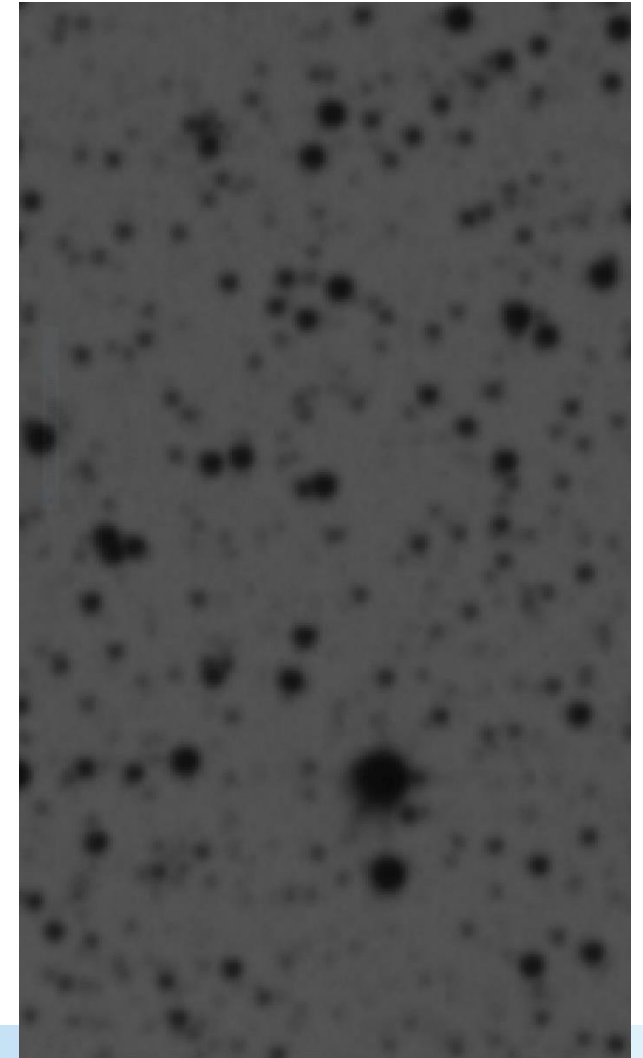
WS Sge (激変星)



CDS Aladin



1734



1849



# IAU Resolution 2018 B3

*Transactions IAU, Volume XXXB*  
*Proc. XXX IAU General Assembly, August 2018*  
*Teresa Lago, ed.*

西角形の領域切り取り(R)

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## THIRTIETH GENERAL ASSEMBLY

### RESOLUTIONS OF THE XXXth GENERAL ASSEMBLY

#### RESOLUTION B3

on preservation, digitization and scientific exploration of historical astronomical data

*Proposed by IAU Inter-Division B-E Working Group on Coordination of Synoptic Observations of the Sun*

The XXX General Assembly of the International Astronomical Union,



# IAU Resolution 2018 B3

## **noting**

1. that historical observations provide irreplaceable information regarding changes in the Sun, stars, and other objects of astronomical interest and thereby allow researchers to investigate the time domain and the nature of those transient, evolutionary or recurring changes across a far greater interval than is possible from the relatively short time-span of modern-age (born digital) observations alone;
2. that despite IAU Resolution B3 (2000), which recommended “the transfer of the historic observations onto modern media by digital techniques”, the great majority of archives remain inaccessible digitally;

## **fearing**

3. that appreciation of the unique potential which astronomy’s data from the past offer, regardless of the prevailing technology, is seriously lacking;
4. that although archives and records of astronomy’s analogue observations (photographic, paper, primitive magnetic tapes, etc.) are still being maintained worldwide, many are in state of increasing decay and all are at risk of loss through natural disasters and through human ignorance or error;

# IAU Resolution 2018 B3

5. that many important datasets were acquired and curated by individual projects, which may not have resources or even plans for preserving the data much beyond the present, and

## **recognizing**

6. that the data accumulated over the past decades and even centuries will be lost unless a concentrated action is taken to identify and preserve all significant records;

## **recommends**

7. that a concerted effort be made to ensure the preservation, digitization, and scientific exploration of all of astronomy's historical data, both analogue and primitive digital, and associated records.

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# Plate Archive の国際学会

(web page ^)

- `<a href="https://www.astroplate.cz/archive/program"> Astroplate 2014</a>`
- `<a href="https://www.astroplate.cz/program"> Astroplate 2016</a>`
- `<a href="https://www.sternwarte.uni-erlangen.de/large-surveys-2019/program/"> Astroplate 2019</a>`
- `<a href="https://www.plate-archive.org/applause/"> APPLAUSE</a>`