



ERLANGEN CENTRE  
FOR ASTROPARTICLE  
PHYSICS



FRIEDRICH-ALEXANDER  
UNIVERSITÄT  
ERLANGEN-NÜRNBERG

# APPLAUSE

## Archives of Photographic PLates for Astronomical USE

### I.The plate archives

Uli Heber, Heinz Edelmann, Dr. Remeis-Sternwarte, Bamberg

Detlef Groote, Hamburger Sternwarte

Harry Enke, Leibniz-Institut für Astrophysik, Potsdam

Taavi Tuvikene, Tartu Observatory

# **Astrophysikalisches Observatorium Potsdam von 1871**



# Berlin Babelsberg

## 1913



Bundesarchiv, Bild 183-50948-0001  
Foto: Zimontkowski | 3. November 1957

# Hamburg Bergedorf 1912



# **Dr. Remeis-Sternwarte, Bamberg**

## **24.10.1889**



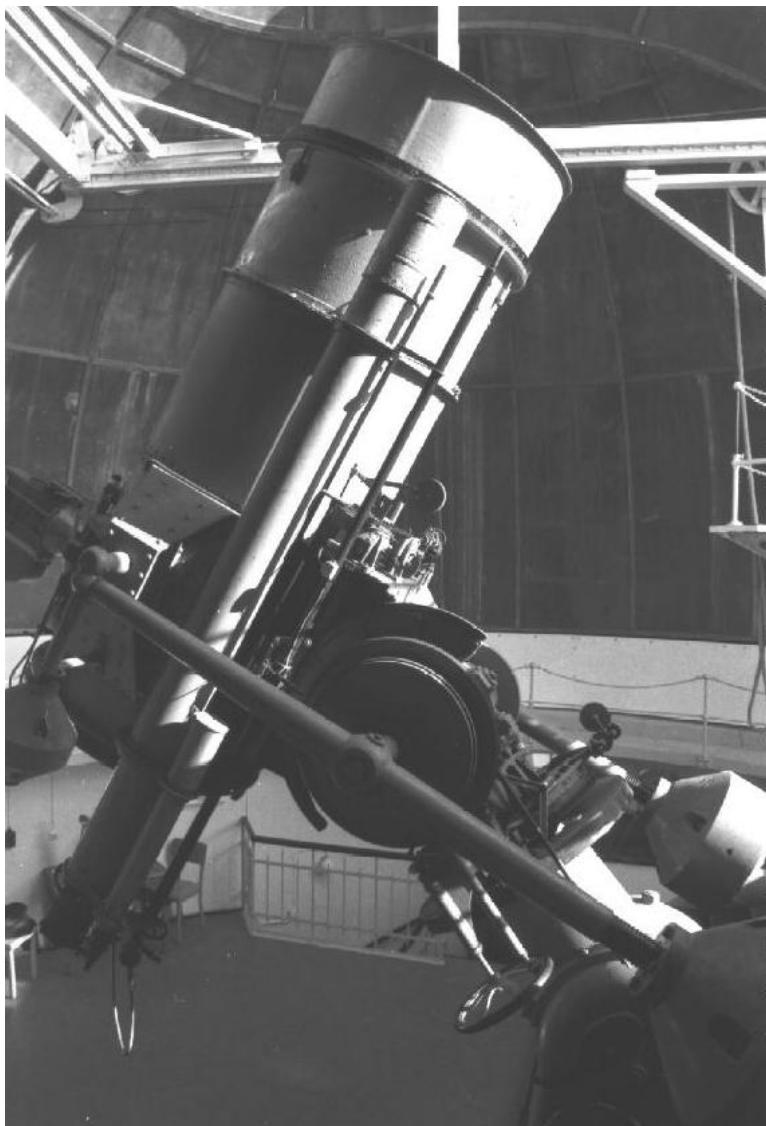
# Tartu (Dorpat): 1811



Ullmann gest. & geod. 1811.

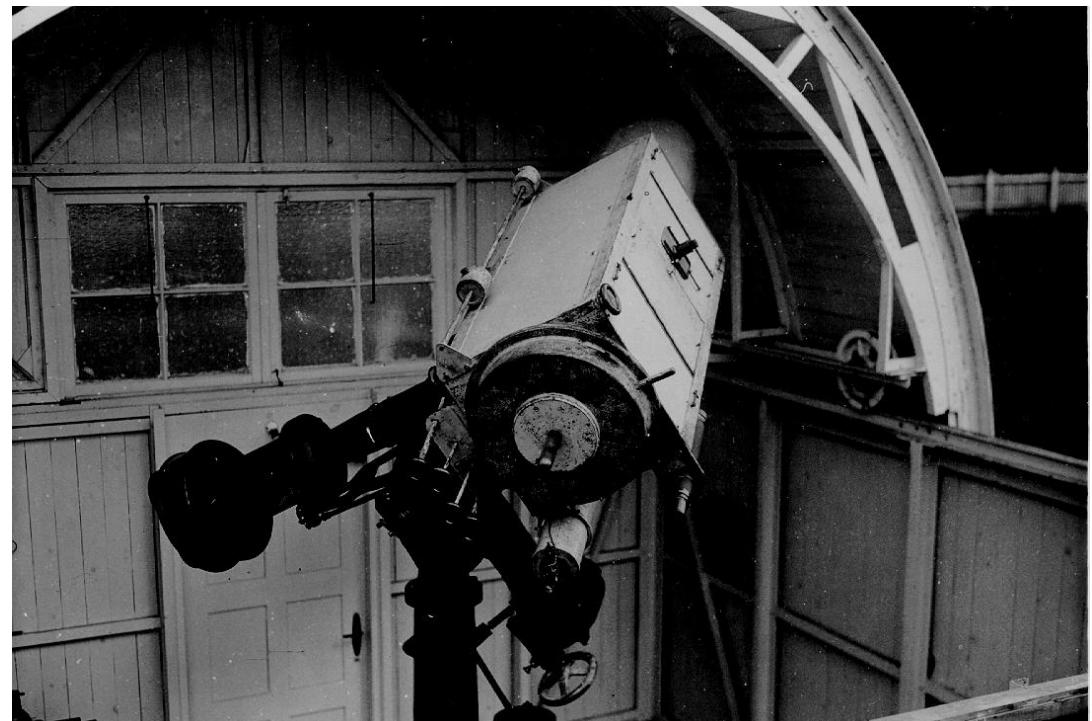
Die Sternwarte

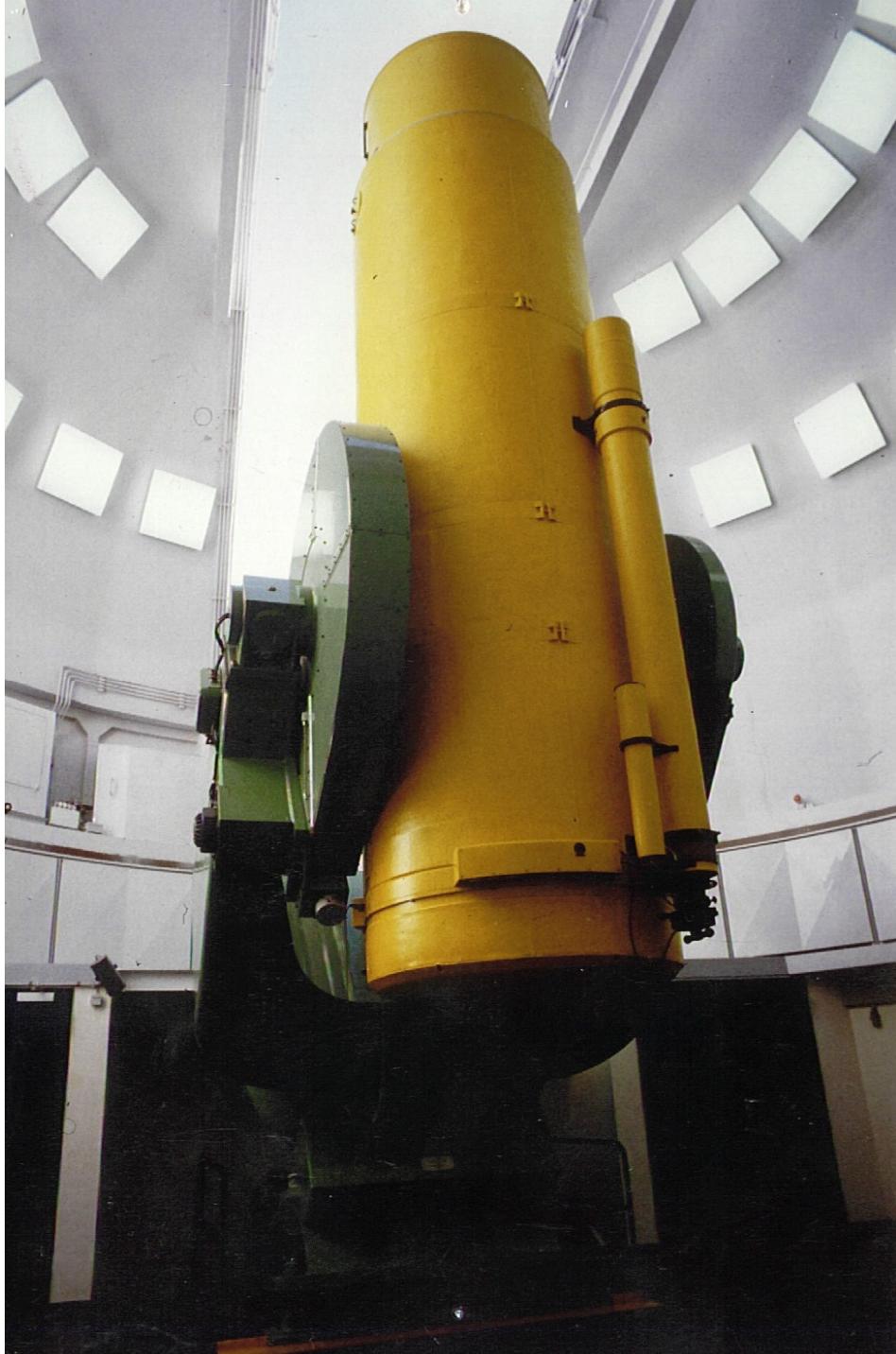
# Hamburg: Telescopes and Cameras



1m (Walter Baade): until 1920  
largest telescope in Germany

1932 Schmidt Telescope  
1954 Hamburg Schmidt





## The Hamburg Schmidt Telescope at Calar Alto

→[Hamburg quasar survey](#):  
(objective prism not in APPLAUSE)  
 $24 \times 24\text{cm} = 5.6 \times 5.6^\circ$

## Hamburg plate archives:

13 telescopes

- different mirror sizes
- different FoVs:  
 $1\text{sq}^\circ$  to  $11^\circ \times 11^\circ$   
(Lippert Astrograph)
- different plate sizes  
up to  $30 \times 30\text{cm}$ :

[33000 direct plates](#)  
[10000 spectroscopic plates](#)

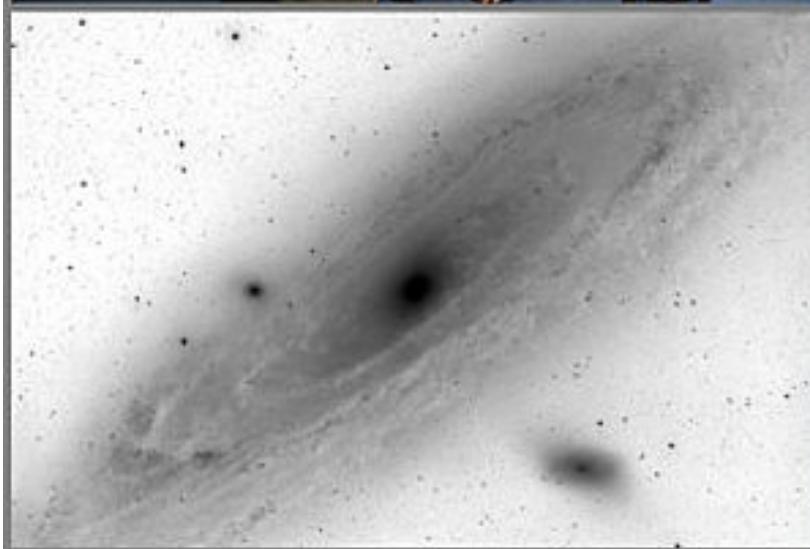
# Potsdam



**Potsdam  
Astrophysikalisches  
Observatorium:  
Doppelrefraktor:  
Carte du Ciel  
Grosser Refraktor:  
Spectroscopy (Vogel)**

**Berlin Babelsberg:**  
1922: 122cm telescope,  
largest telescope  
in Germany

# Tautenburg Schmidt Telescope



Karl Schwarzschild Observatorium Tautenburg

## Schmidtkamera

Platte Nr. 4

Aufnahmedatum 1960 Nov. 16

Expositionszeit 21<sup>h</sup>17<sup>m</sup>30<sup>s</sup> - 21<sup>h</sup>27<sup>m</sup>30<sup>s</sup> (10')

Emulsion Agfa-Astro-Spezial

Entwicklung Metol-Hydrochinon 1:7

Objekt M 31

# Tautenburg Schmidt 1961

## The largest Schmidt telescope of the world



# Dr. Remeis-Sternwarte

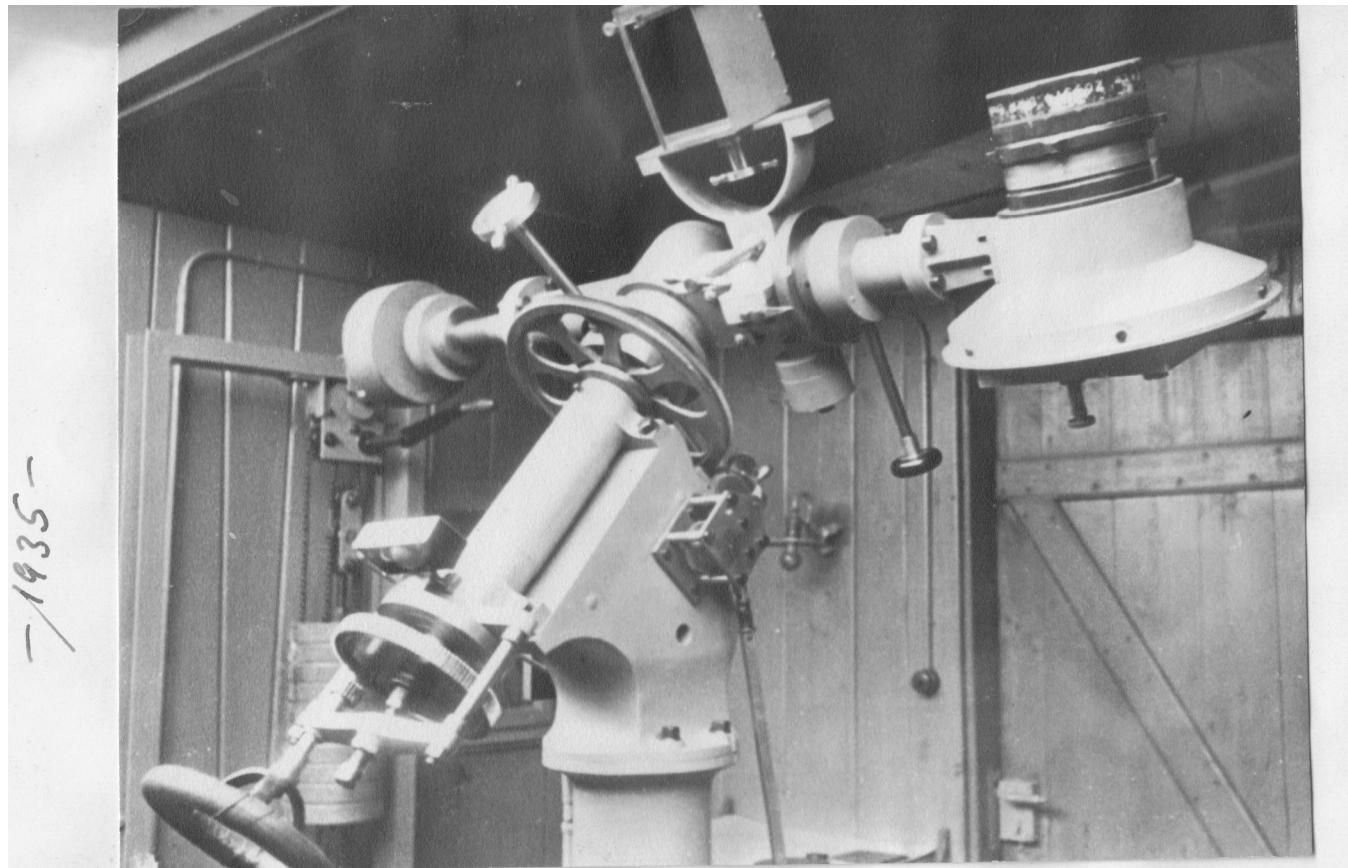


- 31.8.1885: Ernst Hartwig at Dorpat (Tartu) discovers Supernova in the Andromeda nebula**
- 1.1.1886: Founding director of the Dr. Remeis-Sternwarte Bamberg**

**Sky patrol from 1926-1939:  
The „Felderplan“, initiated by Guthnik, Babelsberg  
& Sonneberg & Bamberg**



**Bamberg: Sky patrol from  
1926-1939:  
The „Felderplan“, initiated by  
Guthnik, Babelsberg  
& Sonneberg & Bamberg**



# Sky patrol in the 1950s

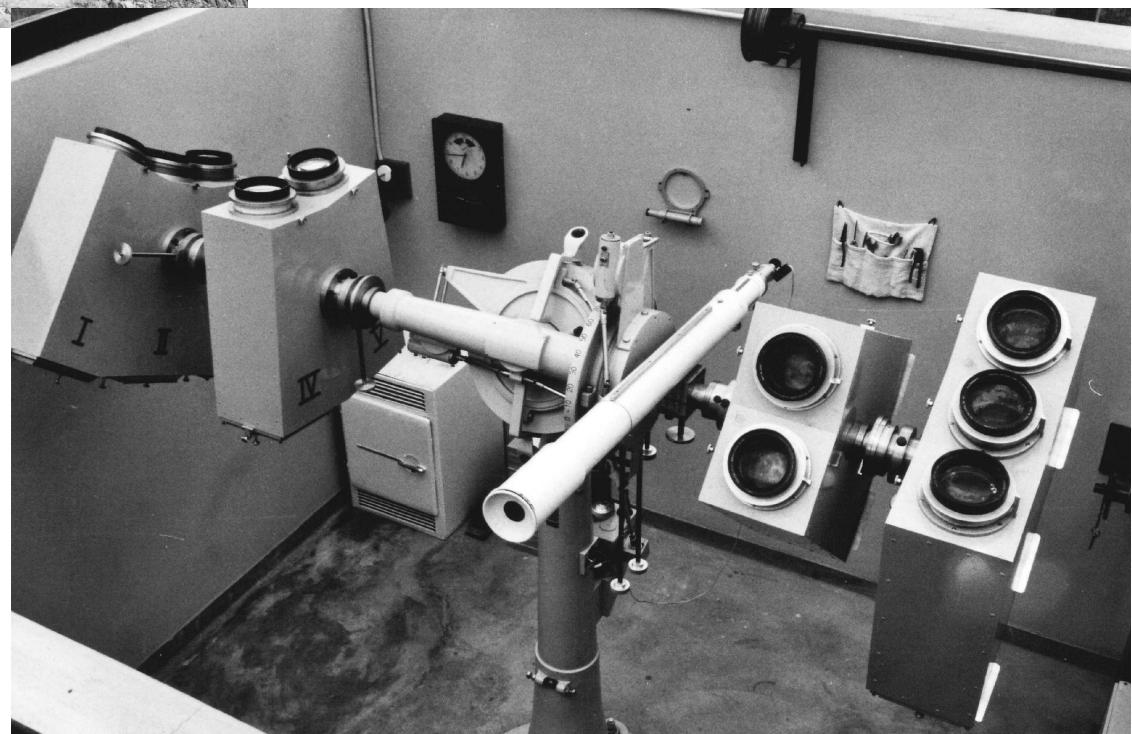


**Multi-camera setup**



**Southern Sky patrol**  
**1963-1974: [South Africa](#)**  
**Boyden station**

**22 wide-field cameras:**  
**Boyden, SA**  
**Mount John, NZ**  
**San Miguel, AR**



# Bamberg sky patrol south



# History of the APPLAUSE project

- 2009:** Recommendation of the Advisory Board  
(Wissenschaftsrat) of the German federal government  
**Digitalisation of scientifically important collections**
- 2010:** German Science Foundation (DFG)  
Call for proposals „*Erschließung und Digitalisierung  
von objektbezogenen wissenschaftlichen Sammlungen*“
- 2011:** Joint Application Potsdam, Hamburg, and Bamberg  
successful → 6 years:
- 3/2019      all plates digitised**  
APPLAUSE data base: added **Tartu & Tautenburg**

# APPLAUSE

Archives of Photographic PLates for Astronomical USE



Home Project Documentation Database tables Query Viewer Contact Wiki Login

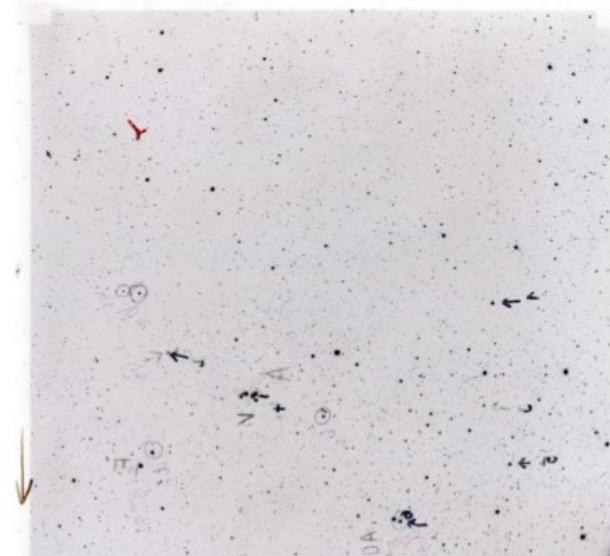
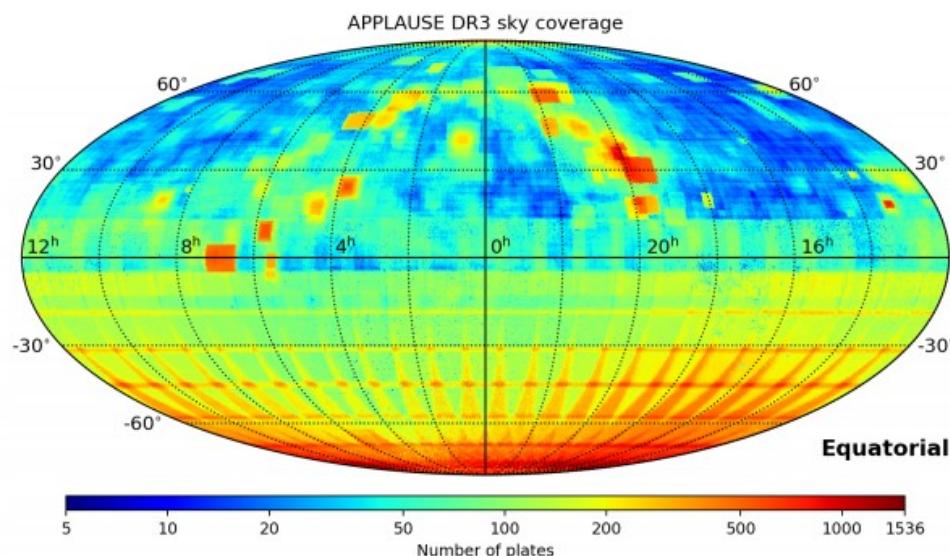
## Welcome to the APPLAUSE archives

German astronomical observatories own considerable collection of photographic plates. While these observations lead to significant discoveries in the past, they are also of interest for scientists today and in the future. In particular, for the study of long-term variability of many types of stars, these measurements are of immense scientific value.

There are about 85000 plates in the archives of Hamburger Sternwarte, Dr. Karl Remeis-Sternwarte Bamberg, and Leibniz-Institut für Astrophysik Potsdam (AIP). The plates are digitized with high-resolution flatbed scanners. In addition, the corresponding plate envelopes and observation logbooks are digitized, and further metadata are entered into the database. The work is carried out within the project "[Digitalisierung astronomischer Fotoplatten und ihre Integration in das internationale Virtual Observatory](#)", which is funded by the DFG.

On this site, you can get access to the plate data that are processed so far. Please use the [registration form](#) to get a user account. Then you can submit SQL queries or fill search forms using the [query interface](#). Without signing in, the query interface can be used as a guest user.

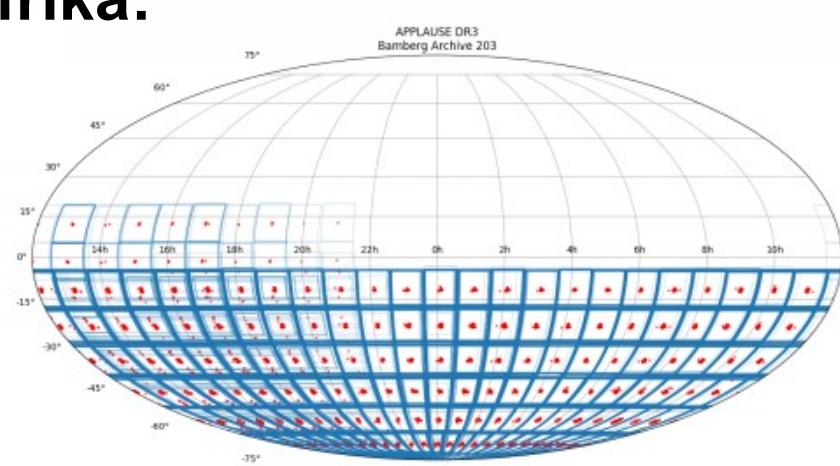
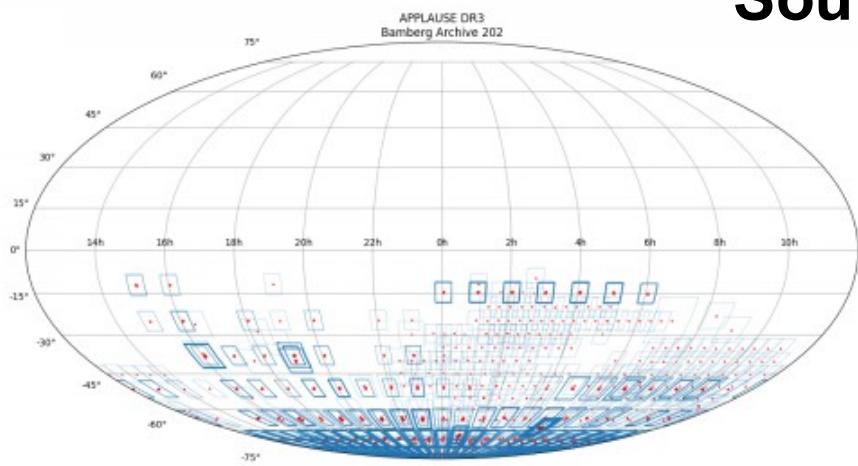
## Data Release 3 is available



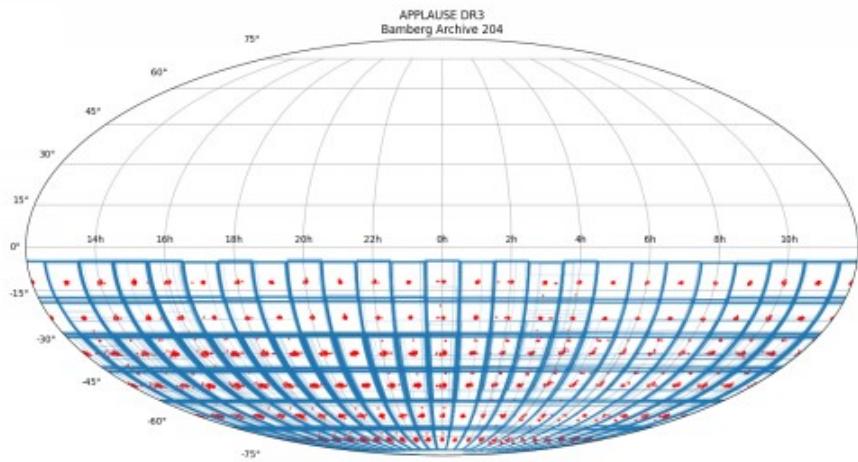
Example of a photographic plate. More sample images can be found in the [image gallery](#). Access to all image material is also provided by the [viewer](#).

# Bamberg Southern Sky Patrol

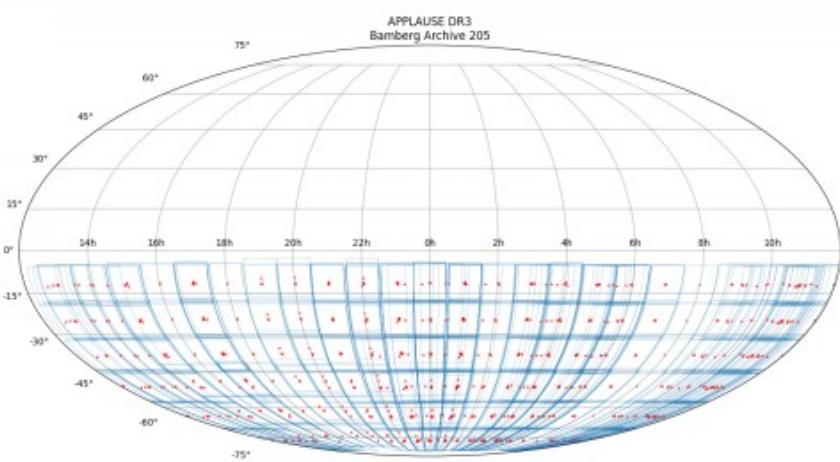
## South Afrika:



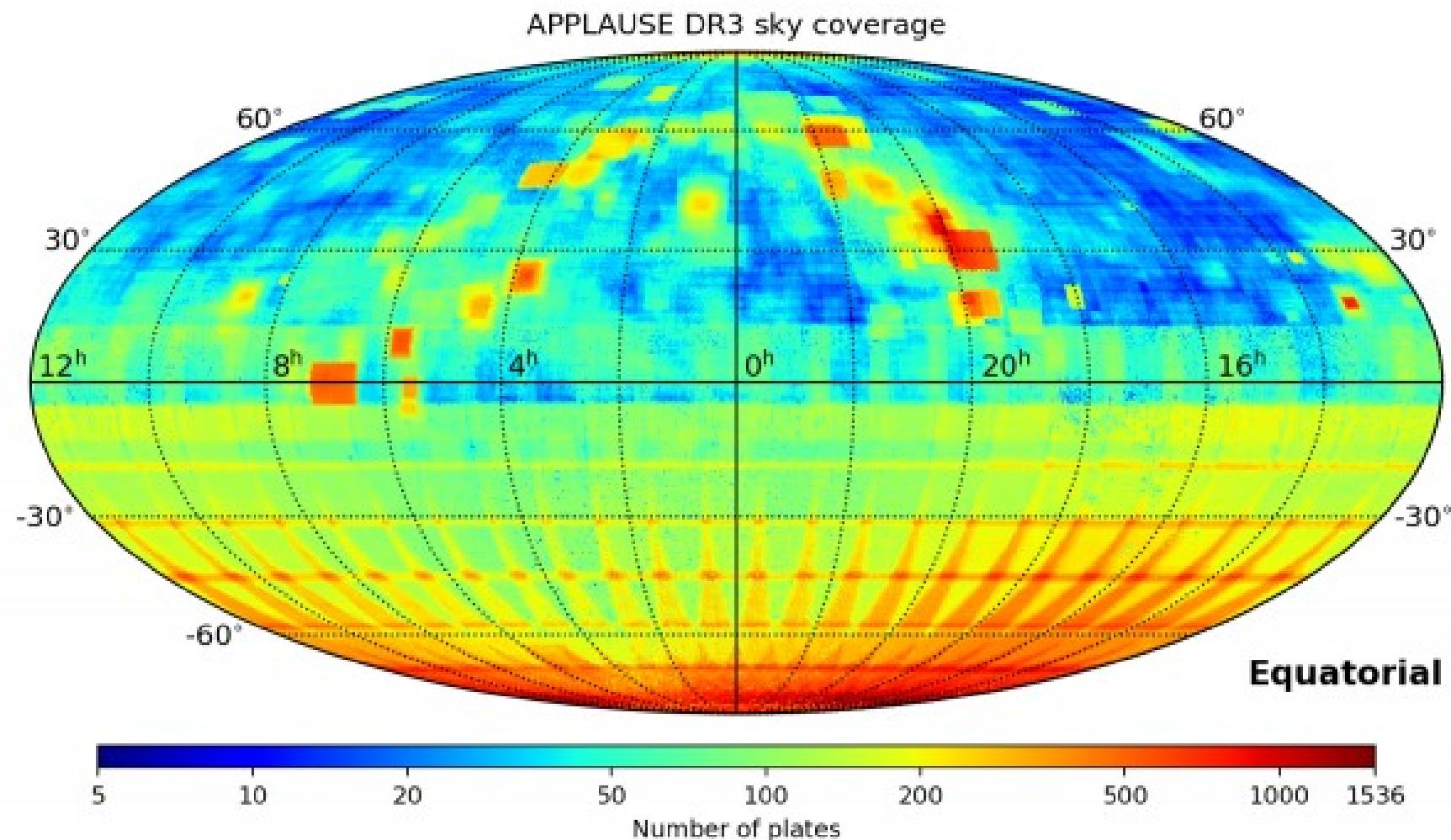
## Neuzealand:



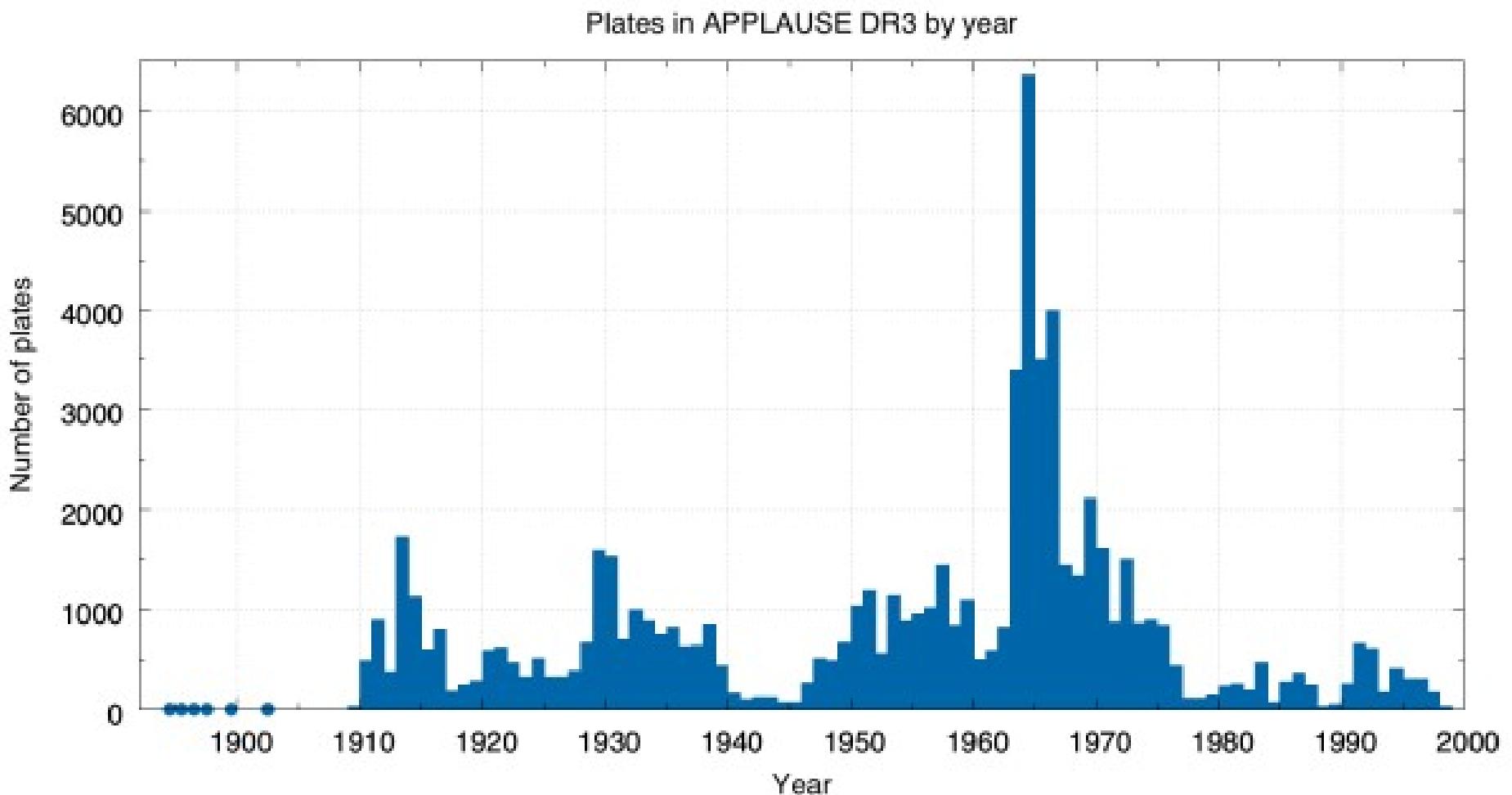
## Argentina:



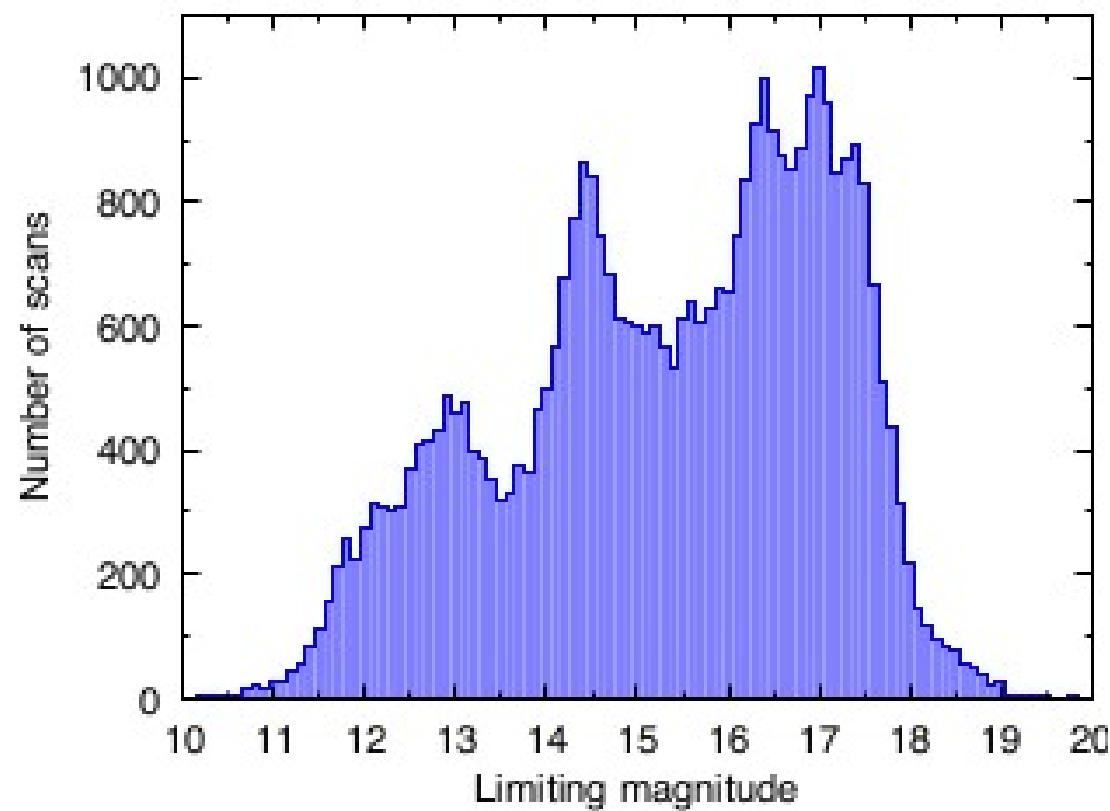
# APPLAUSE: Daten-Release 3 (24.10.2018)



# APPLAUSE: Daten-Release 3 (24.10.2018)



# APPLAUSE: Limiting Magnitudes



## APPLAUSE: DR3 Content

- 215 Log books with 96852 pages & plate covers
- 70276 digitised plates

**Object catalog:**  
**3.5 billion measurements**