

POLISH ASTRONOMICAL PLATES - DIGITALIZATION AND PRESERVING THE ARCHIVES

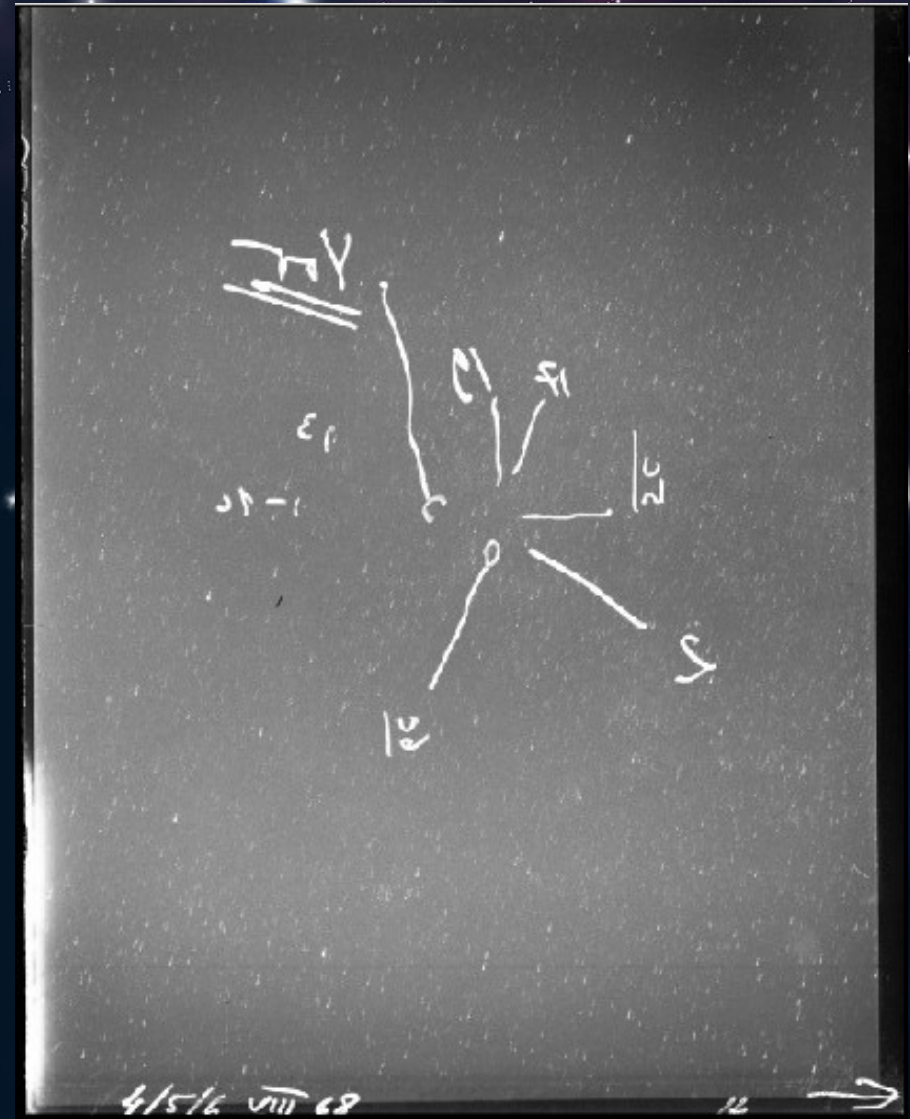


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Astronomical Observatory of the Jagiellonian University
& AstroGrid-PL

Polish archives of astro plates

- **Jagiellonian University, Cracow**: astronomical plates - 50 large-sized, 1000 small sized (6x15cm), stars, comets, quasars (1960-1980,)
- **Nicolaus Copernicus University, Toruń**: plates from 60/90 telescope, sky and spectra, DDS tapes with radio observations (2001-2005)
- **Adam Mickiewicz University, Poznań**: astronomical plates
- **Pedagogical University of Cracow**: old drives with data from photoelectric photometer
- **Nicolaus Copernicus Astronomical Center, Warsaw**: archival data on tapes, drives, CCD, i.e. high resolution spectra of many objects
- **Space Research Centre, Polish Academy of Sciences, Wrocław**: drives with X-ray spectra of the Sun and sun-like stars, particle simulations with Geant4, hydrodynamic modeling
- **Copernicus Science Centre, Warsaw**: magnetic tapes

Exemplary data from Krakow



Exemplary data from Krakow



Obserwatorium Astronomiczne Uniwersytetu Mikołaja Kopernika TORUŃ – PIWNICE			
Nr kliszy	80	1962	Data XII - 20
Obiekt	Czas ekspozycji GMAT		
AR Per	$12^{\text{h}} 34^{\text{m}} - 13^{\text{h}} 16^{\text{m}}$		
Luneta	TS	Pogoda	P ₂ W ₂
Emulsja	KIIa-F	Przyrz. pom.	B K 7
Uwagi	Obs. WI, JS		

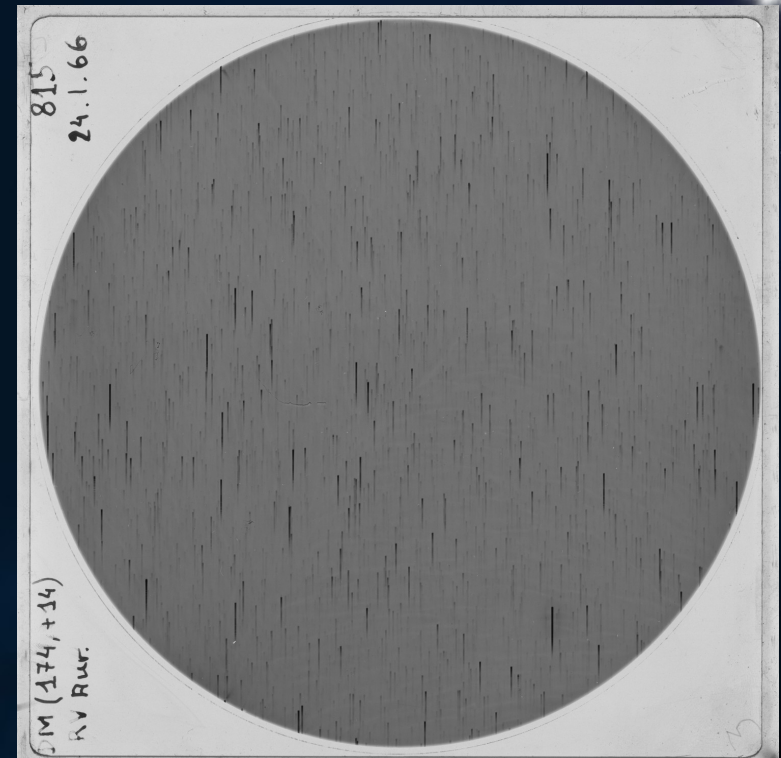


Things to do to save the data

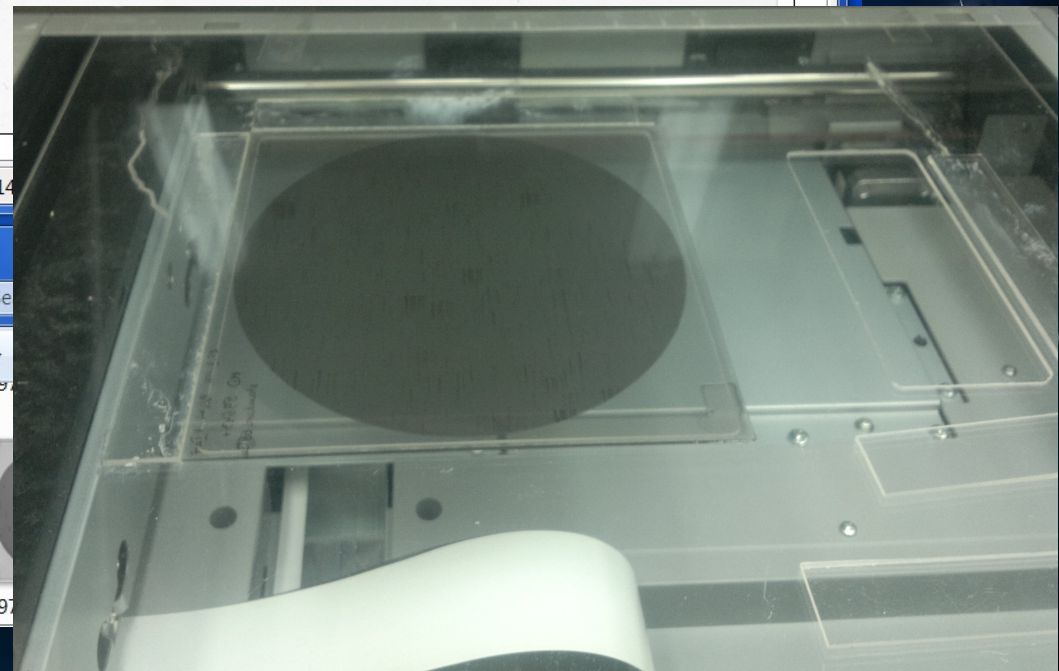
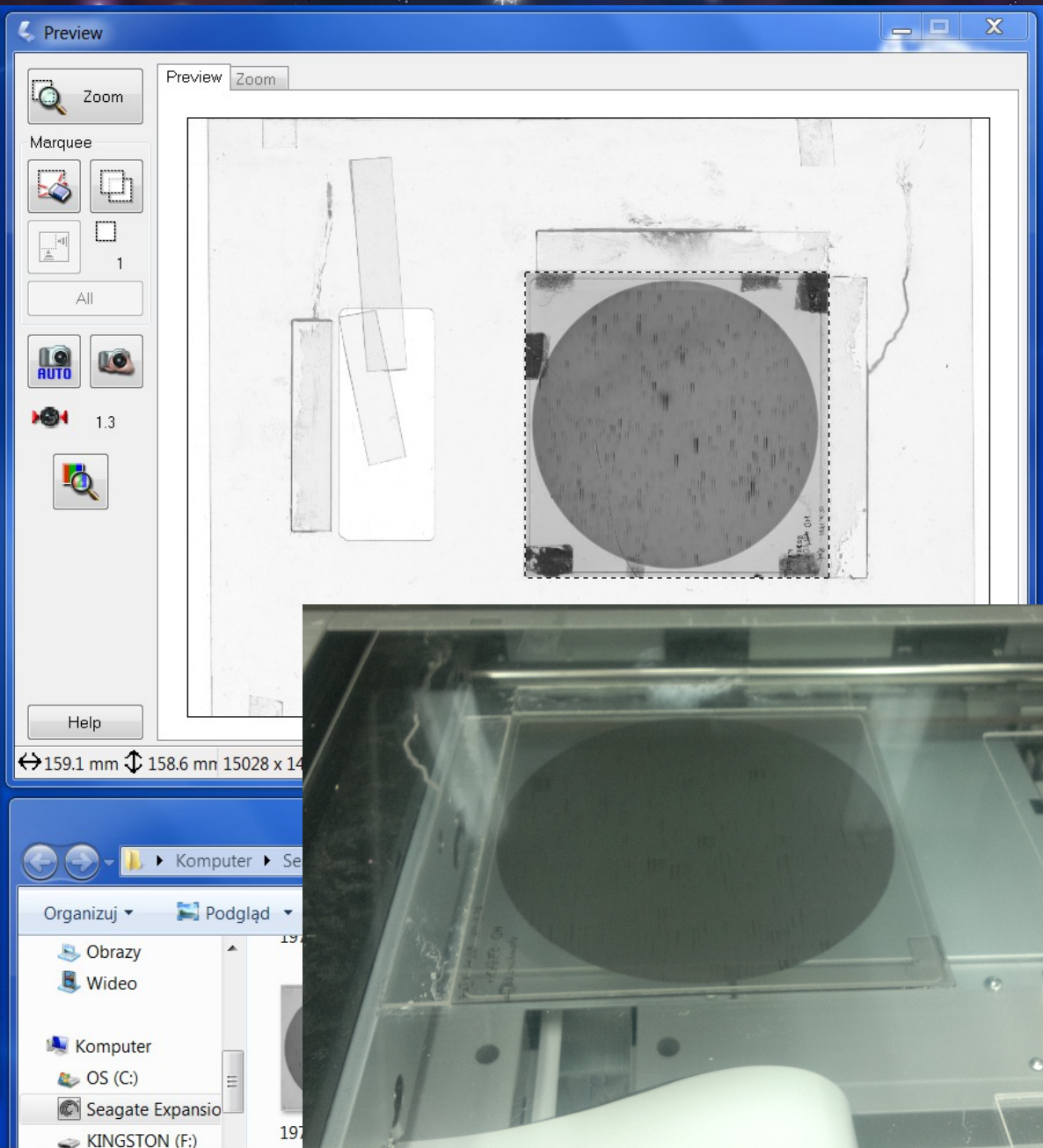
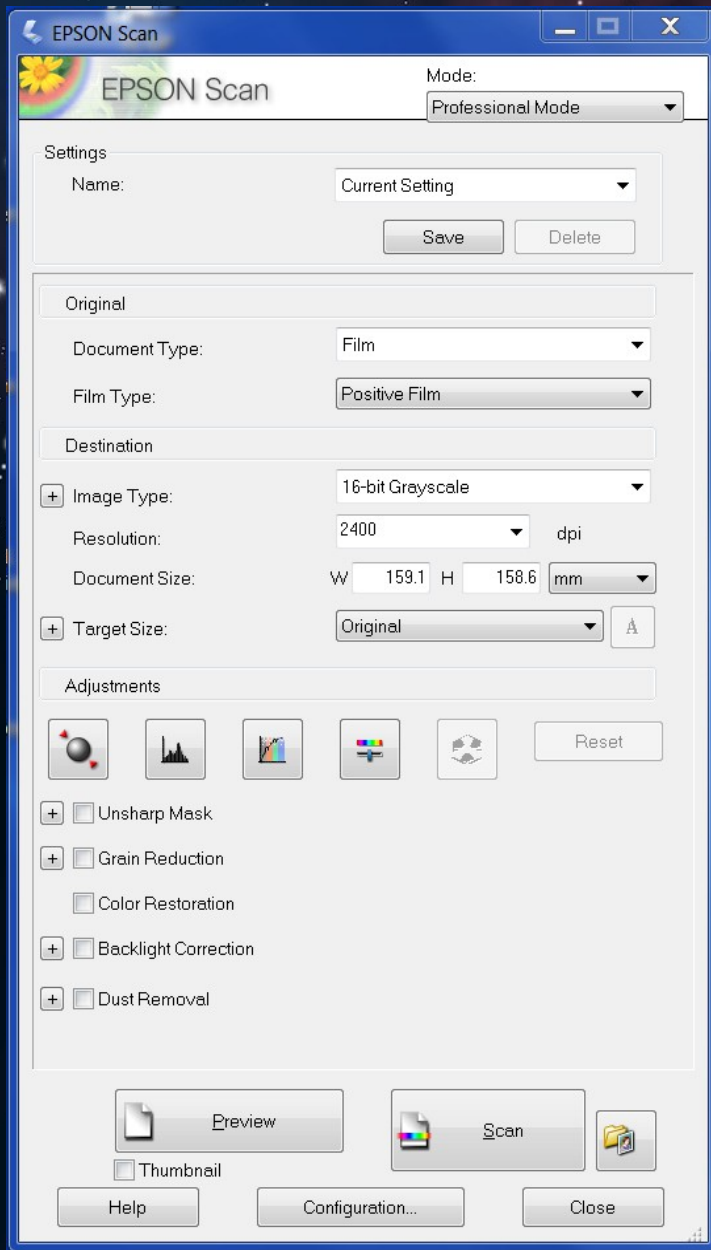
- **replication of data into digital form**
 - cleaning plates
 - scanning
- **supplying the archival data with metadata to enable effective and easy searching the archives**
 - additional coordinate grid, astrometrical calibration
 - TIFF → FITS mass conversion, adding header information (OBJECT, DATA-OBS, TIME-OBS, TELESCOPE, OBSERVER ...)
- **making them available to a wide astronomical community**
 - polish VO, Virtual Observatory, AstroData service of GRID-PL
 - publications

Scientific goals

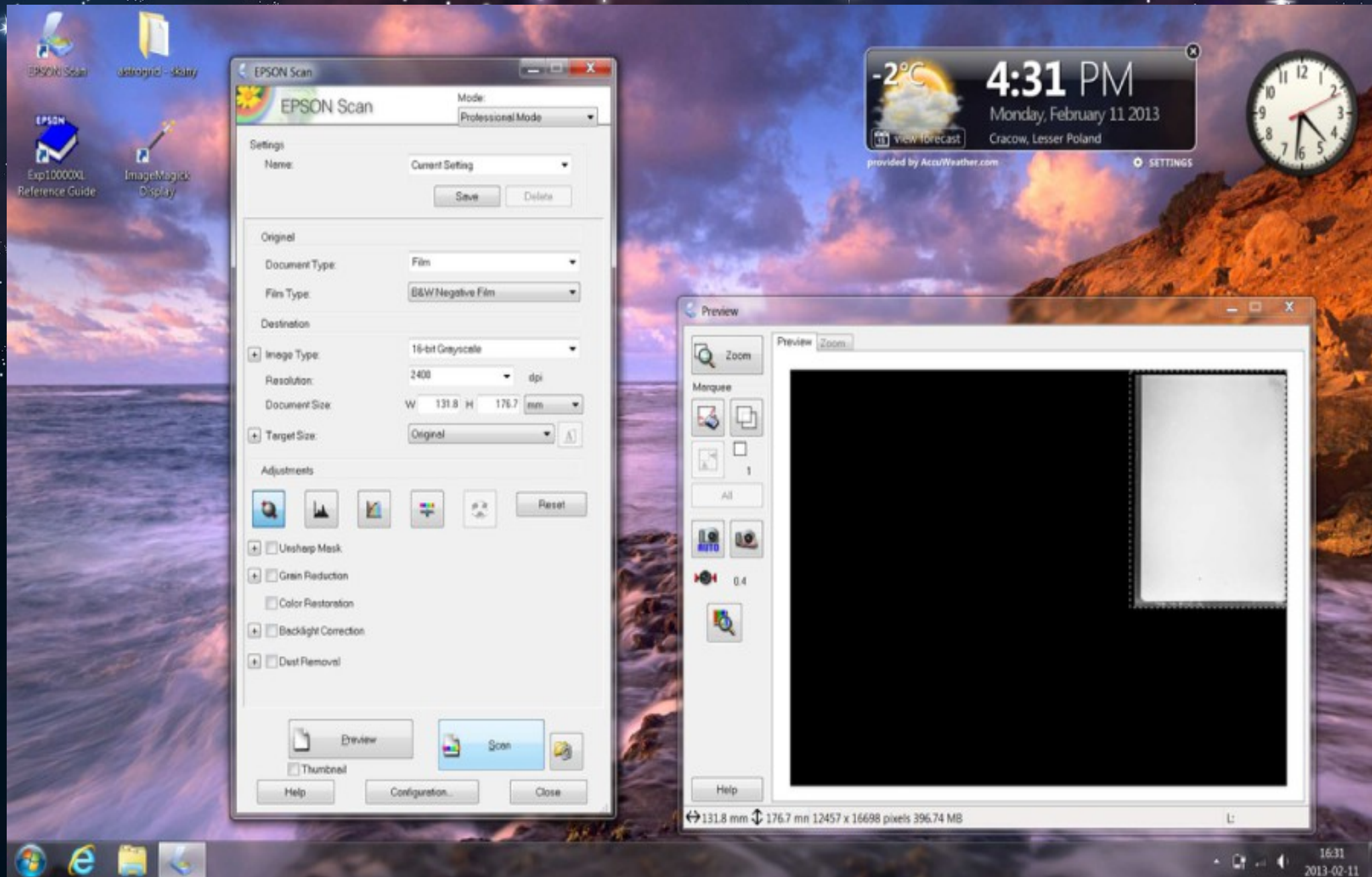
- comparing old and new astronomical data
- projects with the use and necessity of long-term observations
- learning objectives, didactics
- historical values



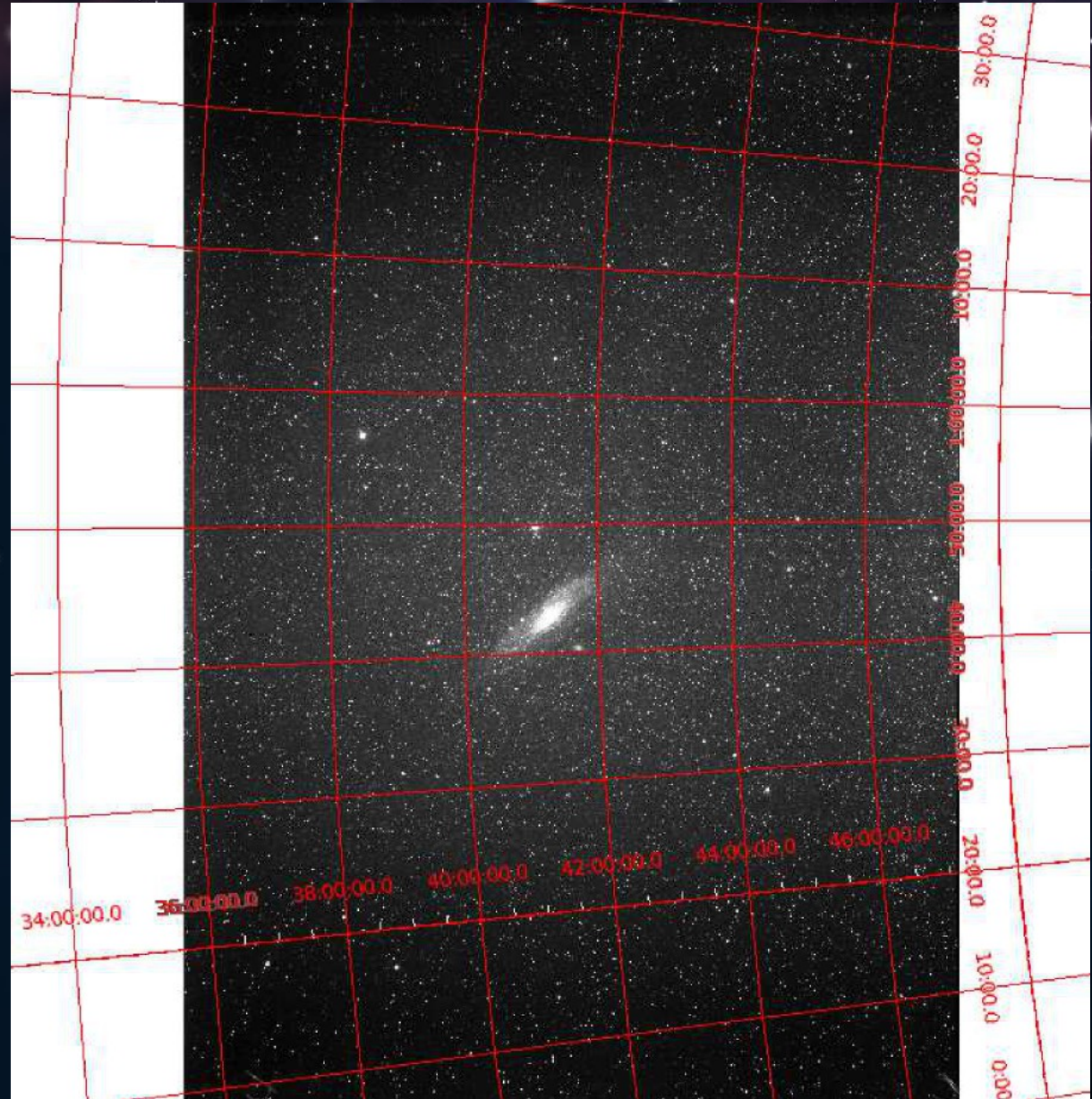
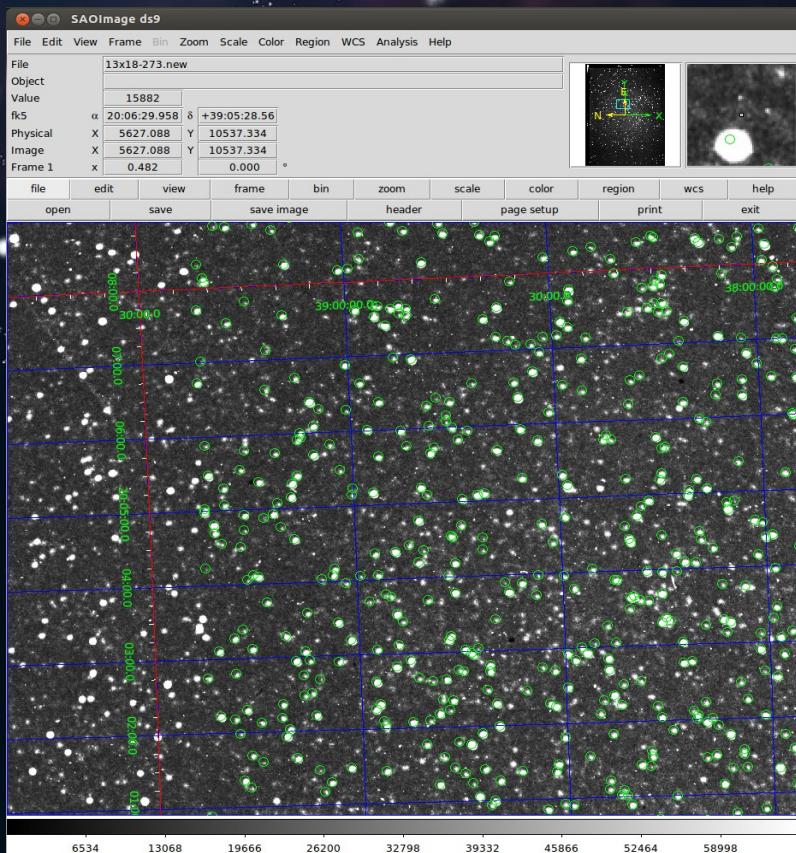
Digitalization



Digitalization



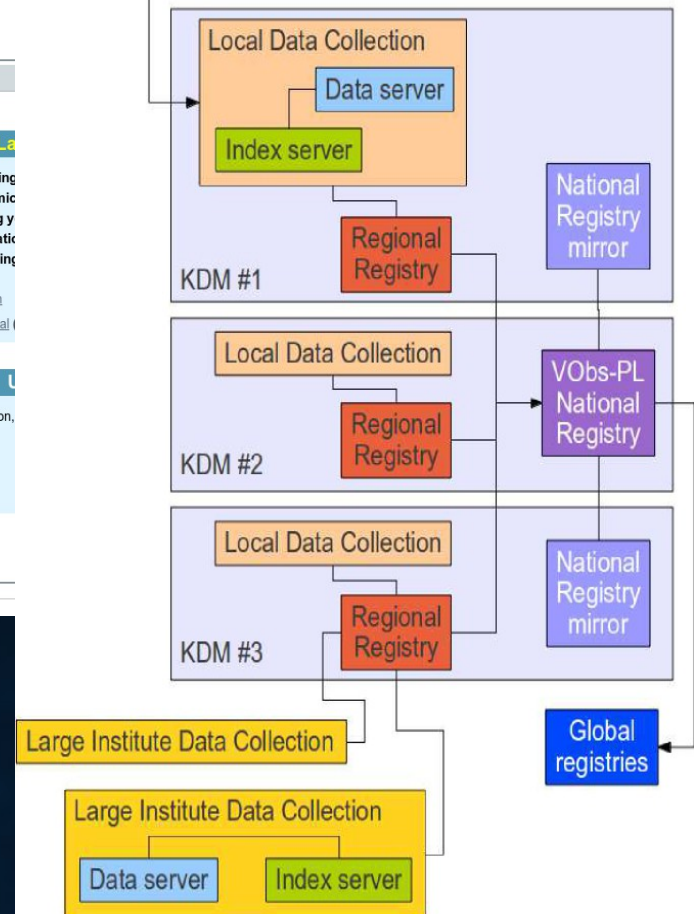
Source identification and coordinate grid



Additional services

The screenshot displays the AstroGrid-PL website. At the top is a navigation bar with links: AstroGrid-PL, Astro-data, Virtual Observatory, Astro-pipelines, InSilicoLab for Astrophysics, Other, Videoconferences, Astro-forum, Info, News, and test. Below this is a 'Last News' section with a post from AstroGrid-PL dated 9/11/13 3:54 PM by Pawel Ciecielag. A 'Logowanie' (Login) section shows the user is signed in as Pawel Ciecielag. The main content area is titled 'Main AstroGrid-PL services' and includes four columns: 'Astro-data' (Manage your data in the virtual space!), 'Polish Virtual Observatory' (Browse resources and services), 'Astro-pipelines' (Workflow environment for automation), and 'InSilicoLab' (Seamless way of doing magnetohydrodynamic simulations). Below this is a 'Supplementary services' section with 'Other activities', 'Videoconferences', and 'Astro-Forum'. The footer indicates the site is 'Powered By Liferay'.

Small Institute Data



Additional services

AstroScope

File History Help


1. Search

Position or Object Name
212.836032,52.202539


Search Radius (deg/s)
0.010000


☒ Degrees ☐ Sexagesimal

☐ Images
☐ Spectra
☒ Catalogues


 Halt

2. Navigate

 Go To Top

 Clear selection

3. Process

 Save

Radial Hyperbolic Services

Catalogues

- 6d RASS/Green Bank Catalog
- NRAO VLA Sky Survey Catalog
- 20cm Radio Catalog
- Einstein IPC Sources Catalog
- ISO (Infrared Space)
- Extragalactic Radio Sources
- Catalog of Infrared
- Einstein Catalog HRI CFA
- HST Archived Exposures
- Einstein Catalog HRI ESTEC
- Green Bank 6-cm (GB6) Radio
- Faint Images of the Radio Sky
- Einstein Observatory 2E
- Einstein Observation Log
- Dixon Master List of Radio
- Chandra Observations
- Brera Multi-scale Wavelet
- Test DSA for Two Micron All
- Wide Field Planetary Camera 2
- Hubble Space Telescope
- Sloan Digitized Sky Survey(DR4)
- Sloan Digitized Sky Survey(DR3)
- Spitzer Space Telescope
- ROSAT All-Sky Survey and
- Einstein IPC Photon Event Data
- ROSAT Results Archive Sources
- ROSAT Public Archival Data
- VeronCatalogofQuasars&AGN,1
- Westerbork Northern Sky
- Master X-Ray Catalog
- CfA Redshift Catalog (June)
- Guide Star Catalog 2.2
- Two Micron All Sky Survey
- VLA Low-Frequency Sky Survey
- SDSS Data Release 5 (DR5)
- SDSS Data Release 3
- ASCA Proposals
- BAX X-Ray Galaxy Clusters
- Hewitt&Burbidge(1991)Catalog
- Chandra XAssist Source List
- HST Planned and Archived
- INTEGRAL Reference Catalog
- Einstein IPC Images
- Einstein IPC Photon Event Data
- Einstein IPC Unscreened
- ROSAT All-Sky Survey and
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Search Results

- Images
- Spectra

Open questions

- How to clean the plates ?
- How to scan (orientation, focus, mode etc.) ?
- How to deal with the granulation ?
- How to deal with damaged or faded plates ?
- How to assemble together images from multiple plates ?

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Thank You