Projects at Palomar

New and traditional roles for the Caltech Library

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Astronomy at Caltech

Observatories

Palomar Logbook Project

Zwicky Publications Project

Conclusion / The End
Astronomy at Caltech

- Cahill Building
- Includes a small astronomy branch library
Pasadena, Palomar, & Owens Valley

- Caltech is located in Pasadena
- Palomar is located in San Diego County. ~120 miles south-east of campus
- OVRO is located in Lone Pine, CA in Inyo County. Almost 300 miles north of Caltech
Palomar Mountain

Telescopes:

- 200-inch Hale Telescope
- 48-inch Samuel Oschin Telescope, 1948+
- 60-inch telescope
- 18-inch Schmidt Telescope, 1936-199x
Logbook Project

- Bumpy beginnings!
- Initially no plan for digital or print archiving at Caltech
- Very important to spend time building trust with collection guardians
- Mountain / Caltech / Library / Archives - culture
- Perception of Archives as a ‘black box’
- Subject Librarian / Circulation staff / Library IT / Archives
Page 58 notes images of Haro's 1952 nova. Starting on page 72, Wild observers nova fields 1-16. There are notes on pages 200+ about the Seeing Project and Program. On page 224 there's a note about a supernova discovered by Paul Wild, a visiting astronomer from Switzerland, in NGC 5668. Page 232 includes a note about Comet Abell, 1952g being photographed. Page 248 includes a note about a Supernova in 4214. Page 250 includes notes from Observer Gates about a Comet Search program.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Telescope</td>
<td>Log type</td>
<td>Volume</td>
<td>Start date</td>
<td>End date</td>
<td>Observers</td>
<td>Projects</td>
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<tr>
<td>1</td>
<td>18-inch</td>
<td>Plate</td>
<td>1</td>
<td>1938-09-05</td>
<td>1937-11-05</td>
<td>[Zwicky, Fritz]</td>
<td>Comet Whipple was observed in this record beginning on page 49. C</td>
</tr>
<tr>
<td>2</td>
<td>18-inch</td>
<td>Plate</td>
<td>2</td>
<td>1937-11-07</td>
<td>1938-12-31</td>
<td>[Zwicky, Fritz]</td>
<td>There's a note on page 101 that supernova in IC 4182 was being obs</td>
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<tr>
<td>3</td>
<td>18-inch</td>
<td>Plate</td>
<td>3</td>
<td>1939-01-11</td>
<td>1940-03-12</td>
<td>[Zwicky, Fritz]</td>
<td>Page 7 indicates that observers took the first picture of Supernova N</td>
</tr>
</tbody>
</table>
| 4  | 18-inch          | Plate   | 4       | 1940-03-12 | 1941-05-27 | [Zwicky, Fritz][Duncan, Dr.][Weaver, Harold F. [?] | There's notes pages 3-7 about the last page indicates that the pictures were taken in the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the first page indicates that the 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<th>TIME (M.S.T.)</th>
<th>α</th>
<th>δ</th>
<th>REMARKS</th>
<th>EXPOSURE</th>
<th>FILM</th>
<th>FOCUS &amp; TEMP</th>
<th>OBSERVER</th>
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<td>10 min.</td>
<td>Eastman 105a-0</td>
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<td>12-38</td>
<td>-11°36</td>
<td>NGC 1594; polaroid N-3</td>
<td>15</td>
<td></td>
<td>4</td>
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<tr>
<td>11^1</td>
<td>12-38</td>
<td>-11°36</td>
<td>E-W</td>
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<td>3.1.20</td>
<td>13-20</td>
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<td>13-30</td>
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<td>supernova discovered in NGC 5628</td>
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<td>17-45</td>
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<td>5 sn. F</td>
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<td>Observer</td>
<td>Exposure</td>
<td>Film</td>
<td>Focus &amp; Temp</td>
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<td>3°30 a.m.</td>
<td>18-45</td>
<td>-1°</td>
<td>NF 9</td>
<td>4 min.</td>
<td>Eastman 103 a-0</td>
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<td>19-15</td>
<td>-1°</td>
<td>NF 11</td>
<td>4</td>
<td>.</td>
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<td>51°F</td>
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<tr>
<td>9°44</td>
<td>14-36</td>
<td>+2°15</td>
<td>Supernova discovered by Paul Wild, visiting astronomer from Switzerland, in NGC 5268!</td>
<td>13 min.</td>
<td>8</td>
<td>68°F</td>
<td>WILD &amp; GATES</td>
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<tr>
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<td>14-36</td>
<td>+2°15</td>
<td>3°3</td>
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<td>40°F</td>
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<td>+2°15</td>
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<td>14-36</td>
<td>+2°15</td>
<td>20</td>
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<td>103 a-F, + F 29</td>
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<tr>
<td>12°18</td>
<td>18-15</td>
<td>-16°45</td>
<td>5</td>
<td>.</td>
<td>103 a-0</td>
<td>5</td>
<td>52°F</td>
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<tr>
<td>2°39</td>
<td>14-31</td>
<td>+4°40</td>
<td>Attached 4° objective prism</td>
<td>7</td>
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<td>103 a-E</td>
<td>8</td>
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<td>2°52</td>
<td>14-31</td>
<td>+4°40</td>
<td>Prism.</td>
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<td>18-22</td>
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<td>3°2</td>
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<tr>
<td>3°17</td>
<td>18-22</td>
<td>-18°12</td>
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<td>7</td>
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<tr>
<td>3°38</td>
<td>18-22</td>
<td>-18°12</td>
<td>.</td>
<td>9</td>
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</tr>
</tbody>
</table>
Palomar Observatory Logbooks

Palomar Observatory 18-inch Schmidt Telescope Plate Logbook, Volume 1
(1936 to 1937)

Palomar Observatory 18-inch Schmidt Telescope Plate Logbook, Volume 2
(1937 to 1938)

Palomar Observatory 18-inch Schmidt Telescope Plate Logbook, Volume 3
(1939 to 1940)

Palomar Observatory 18-inch Schmidt Telescope Plate Logbook, Volume 4
(1940 to 1941)

Palomar Observatory 18-inch Schmidt Telescope Plate Logbook, Volume 5
(1941 to 1945)

Palomar Observatory 18-inch Schmidt Telescope Plate Logbook, Volume 6
(1945 to 1947)

Palomar Observatory 18-inch Schmidt Telescope Plate Logbook, Volume 7
(1946 to 1949)

Palomar Observatory 18-inch Schmidt Telescope Plate Logbook, Volume 8
(1949 to 1950)

Palomar Observatory 18-inch Schmidt Telescope Plate Logbook, Volume 9
(1950 to 1951)

Palomar Observatory 18-inch Schmidt Telescope Plate Logbook, Volume 10
(1951 to 1955)

Palomar Observatory 18-inch Schmidt Telescope Plate Logbook, Volume 11
(1955 to 1958)

Palomar Observatory 18-inch Schmidt Telescope Plate Logbook, Volume 12
(1958 to 1962)
Next steps?

Linked Data? ADS?

Handwriting translation software

Transcribers? Volunteers?

More logbooks? Plates?

Wild, P. Light curves of the Supernovae of 1954. PASP 72:425 p.97
Project 2 - Publications
CaltechAUTHORS

- Our institutional repository
- 2009+, 93k records
- Groups 2012+
- https://authors.library.caltech.edu
- https://thesis.library.caltech.edu/
- https://data.caltech.edu/
- Publications can be tagged across these repositories w same group names across
- Feeds

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TAPIR
(Theoretical Astrophysics Including Relativity)

(also available recent 25 feeds)

... from CaltechTHESIS
- Ph.D (124) (HTML, HTML Include, Markdown, BibTeX, JSON, RSS)

... from CaltechAUTHORS
- Combined (1442) (HTML, HTML Include, Markdown, BibTeX, JSON, RSS)
- Articles (1309) (HTML, HTML Include, Markdown, BibTeX, JSON, RSS)
- Book sections (68) (HTML, HTML Include, Markdown, BibTeX, JSON, RSS)
- Report or Paper (64) (HTML, HTML Include, Markdown, BibTeX, JSON, RSS)
- Teaching Resource(s) (1) (HTML, HTML Include, Markdown, BibTeX, JSON, RSS)

https://feeds.library.caltech.edu/groups/TAPIR/
Using our IR to track campus research output

- Anything Caltech-authored gets added to our IR
- Use group names in metadata field
- Can enter as many groups as are identified in the affiliation field or acknowledgements section

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Jan van Roestel et al 2021 AJ 161 267
Zwicky Transient Facility

- Instrument mounted on 48” telescope at Palomar
- PI asked Library to track pubs, right at funding, ...“email librarian”
- Zwicky publications page from CaltechAUTHORS
But...

- PI is at Caltech
- Collaboration is intl
- Our IR exists to document Caltech research
- We don’t have capacity or mandate to harvest addtl papers

The ZTF Collaboration

Partners in the Zwicky Transient Facility are:

- Caltech
- IPAC
- Weizmann Institute of Science
- Oskar Klein Center at Stockholm University
- University of Maryland
- Deutsches Elektronen-Synchrotron and Humboldt University
- TANGO Consortium of Taiwan
- University of Wisconsin-Milwaukee
- Lawrence Livermore National Laboratory
- Trinity College Dublin
- Institut national de physique nucléaire et de physique des particules.
● We can track ZTF papers when they include a Caltech author
● But it makes much more sense to use ADS Private Libraries for international efforts like ZTF
Recent Publications

Minutolo, Lorenzo ; Wandui, Albert et al. (2021) Thermal Kinetic Inductance Detectors Camera: System Level Design, Strategy and Performance Forecast IEEE Transactions on Applied Superconductivity ; Vol. 31 ; No. 5

Bonnerot, Clément ; Lu, Wenbin et al. (2021) First light from tidal disruption events Monthly Notices of the Royal Astronomical Society ; Vol. 504 ; No. 4

van Roestel, Jan ; Duev, Dmitry A. et al. (2021) The ZTF Source Classification Project. I. Methods and Infrastructure Astronomical Journal ; Vol. 161 ; No. 6

For a complete publications list, see feeds.library.caltech.edu
14 July 2014

The Zwicky transient facility observing system

Roger M. Smith, Richard G. Dekany, Christopher Bebek, Eric Bellm, Khanh Bui, John Cromer, Paul Gardner, Matthew Hoff, Stephen Kaye, Srivas Kulkarni, Andrew Lambert, Michael Levi, Dan Riley

Author Affiliations:

Event: SPIE Astronomical Telescopes + Instrumentation, 2014, Montréal, Quebec, Canada

Abstract

The Zwicky Transient Facility (ZTF) is a synoptic optical survey for high-cadence time-domain astronomy. Building upon the experience and infrastructure of the highly successful Palomar Transient Factory (PTF) team, ZTF will survey more than an order of magnitude faster than PTF in sky area and volume in order to identify rare, rapidly varying optical sources. These sources will include a trove of supernovae, exotic explosive transients, unusual stellar variables, compact binaries, active galactic nuclei, and asteroids. The single-visit depth of 20.4 mag is well matched to spectroscopic follow-up observations, while the co-added images will provide wide sky coverage 1.5–2 mag deeper than SDSS. The ZTF survey will cover the entire Northern Sky and revisit fields on timescales of a few hours, providing hundreds of visits per field each year, an unprecedented cadence, as required to detect fast transients and variability. This high-cadence survey is enabled by an observing system based on a new camera having 47 deg² field of view—a factor of 6.5 greater than the existing PTF camera - equipped with fast readout electronics, a large, fast exposure shutter, faster...
Thank you!

Also a local thank you to:
CaltechAUTHORS: George Porter, Tony Diaz
CaltechDATA: Tom Morrell
Docuserve / ILL: Bianca Rios, Ben Perez, Dan Anguka
Digital Library Development: Stephen Davison