1 Astronomers Telegram 6 May 2019

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http://www.astronomerstelegram.org/

Analog of the CBAT, the Central Bureau for Astronomical Telegrams, actual telegrams were sent to people.

CBATs carried a high cost of membership , information was essentially embargoed to their subscribers. CBAT started soon after the IAU's creation in the early 1920s ran until until 2015, when the Commissions were disbanded. http://www.cbat.eps.harvard.edu/

http://www.astronomerstelegram.org/?read=12660

ATel reports on a number of astronomical events.

There are several highly specialized groups that may/may not report, and may report between themselves faster. Some are driven by researchers that know each other personally. I know of instances, where one person observing at one observatory literally sending an email to another telescope operator asking for a quick peek at a target. Hey, get me a quick spectra of this thing. The telegram follows up hours later.

A casual glance on 6 May 2016 in the MT local AM, with "Show All" set, there were 3 telegrams for 5 May – not a lot. Sometimes they pour in.

One (so far) from 6 May.

1.1 Using ATel

1. directly from their website. I do this over coffee on mornings when I have scopes looking for something to do.
2. At the telescope, heck something exciting might happen
3. email digests; Woody gets his at 9:00 AM, I get mine at 3:00p

1.2 Query with programs

It is possible to query ATel from within a program. The main access script is written in PERL (ugh) so will require some thought.

1.3 Account creation

Create an account, enter your email, a confirm link is sent via that email to you. You may then visit the email link (center top) and fill out the query. I get my emails at 15:00 local, time to get later notices and early enough to plan.

Before getting an account, check the boxes and follow along for a while to get a feel for what happens.

1.4 Event history in the ATels

ATels that are related, have a list of previous (if any) ATels issued w.r.t. that object. You can click back and read about what has led up to the current point being made.

There are often mag tables etc reporting observations.

There are links outside of the ATel (usually to the home institution) for more data - like images of spectra, raw data whatever they want to offer.

Short summary is one of the best places to find ToO (Target of Opportunity) requests and fast breaking Nova and Supernova reports.

1.5 Types of observing

1. Photometry
   (a) Variable star (check every week/year)
   (b) Novae - ignore for years ATel and hit it hard (clear)
   (c) narrow-band (low resolution spectroscopy)
   (d) broad-band
2. High Cadence Photometry Occultations, star flicker
3. Spectroscopy:
   (a) point source
   (b) longslit
   (c) slit-sliding (eliminate download times)
   (d) slit-scanning
   (e) integral field (lots of fibers make an 'image')
4. Output:
   (a) spectra
   (b) data point
   (c) time-series (novae asteroids)

1.6 Vocabulary

Time allocation committee - Write a proposal, get a fixed slot in telescopes time – it may rain!

Queue observing – to overcome some limitations, TAC says we need data. If something happens raise our weight in the queue. EG Dr Imke Pater and infrared KECK observations of IO volcanoes. They go on their own schedule.

Automated surveys: PTF, ZWF, Catalina, PanSTARRS, space missions

TESS - Transiting Exoplanet Survey Satellite – looking for lots of ground based observations

LIGO - Laser Interferometer Gravitational-Wave Observatory

Call for Observations - somebody wants more data
Target of Opportunity (ToO) - somebody wants more data

Coordinated Campaign - usually big project or space/based coordinated

Alerts - AAVSO Alert system

1.7 Background sources: Surveys

POSS - Puckett Observatory Supernova Survey
– amateur based 300+ discoveries

Catalina Sky Survey
https://catalina.lpl.arizona.edu/

Polarmar Transient Factory - Caltech/Polamar related https://www.ptf.caltech.edu/
Zwicky Transient Facility - https://www.ztf.caltech.edu/

ASASSN - All Sky Automated Survey for Supernova
http://www.astronomy.ohio-state.edu/~assassin/index.shtml

OGLE - scopes stare at rich patch of sky for microlensing
http://ogle.astrouw.edu.pl/

ICECUBE - Neutrino
https://icecube.wisc.edu/

LIGO (gravity wave) all hands on deck for the GW170817 event.
https://www.ligo.caltech.edu/

LCO
https://lco.global/

PanSTARRs
https://panstarrs.stsci.edu/

ATLAS The Asteroid Terrestrial-impact Last Alert System http://www.ifa.hawaii.edu/info/press-releases/ATLAS/

Various space missions DAMPE- (China) The DArk Matter Particle Explorer
SWIFT
INTEGRAL - INTErnational Gamma-Ray Astrophysics Laboratory
NICER Neutron Star Interior Composition Explorer (NICE too)
Chandra
NuSTAR

MAXI Monitor of All-sky X-ray Image (MAXI) ISS (Japan)
Fermi

etc...

There are lots of space missions flying now.

– OK Now you have a tiger by the tail, how do you plan a set of observations?