

# New Braunfels Astronomy Club

Texas, USA

February 20<sup>th</sup>, 2020

247<sup>th</sup> Meeting

## Larry's Celestial Calendar & Newsletter

-by Eric Erickson

271<sup>st</sup> Edition

### Zodiacal Light

### Comet PanSTARRS (C/2017 T2)

### Dance of Planets & Moon

### Daylight Saving!

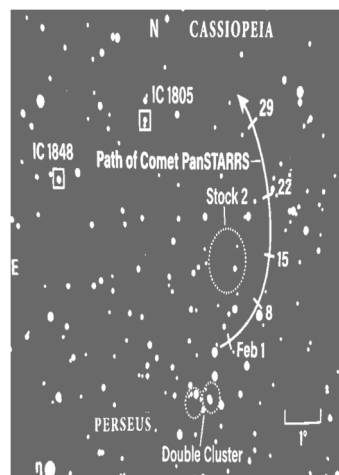
### Say Goodbye to Iridium Flares

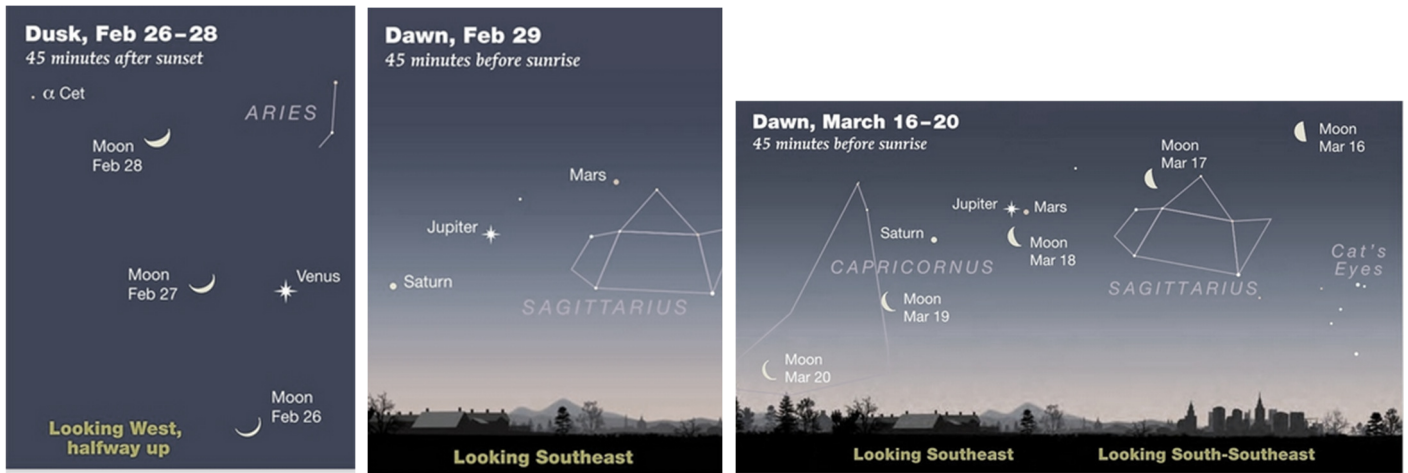
## Observer's Highlight Calendar for Clear Skies

-From Astronomy Magazine



From Earth's surface, the zodiacal dust cloud looks like a triangular glow radiating from the horizon. You need to look up from a dark-sky site to see this phenomenon.  
*ESO/Y. Beletsky*





Month Date Time/Direction Event

Feb	23	9:32 am CST	New Moon
Feb	25	8 pm CST	Mercury is at inferior conjunction with the Sun
Feb-Mar		Evening after twilight ends	The Zodiacal light is visible as a triangular shaped glow coming up from the horizon in the west-southwest. It's caused by a trail of dust following Earth in its orbit.
Mar	02	1:57 pm CST	First Quarter Moon
Mar	08	02:00 am >> 03:00 am	Daylight Saving Time (CDT) = Spring Forward
Mar	08	07:00 am CDT	Neptune is in conjunction with the Sun
Mar	09	12:48 pm CDT	Full Moon – a big one – it's at perigee in 13 hours!
Mar	16	04:34 am CDT	Last Quarter Moon

## Solar System Roundup

- ✚ **Mercury** is dim, reaches inferior conjunction with the Sun on 02/25 and will not be visible until mid-March as a morning “star”
- ✚ **Venus** is an evening “star” and dances with the Moon
- ✚ **Earth** still spins, and we are still here to marvel at the wonders of our universe
- ✚ **The Moon** dances with Venus in the evening, Jupiter, Mars, and Saturn in the morning.
- ✚ **Mars** is a morning “star”, and is joined by the Moon, Jupiter, and Saturn in the SE
- ✚ **Jupiter** is visible in the SE - early morning hours before sunrise
- ✚ **Saturn** is visible in the SE - early morning hours before sunrise
- ✚ **Uranus** is in Aries, in the west at nightfall and sets before midnight
- ✚ **Neptune** is setting shortly after sunset and not a good target
- ✚ **Comet(s)**
  - PANSTARRS (C/2017 T2) is around magnitude 9-10 and should be visible in 4” or larger scopes. It's in Cassiopeia heading NE and will be about 3° west of IC 1805 on Feb 29-Mar 01.

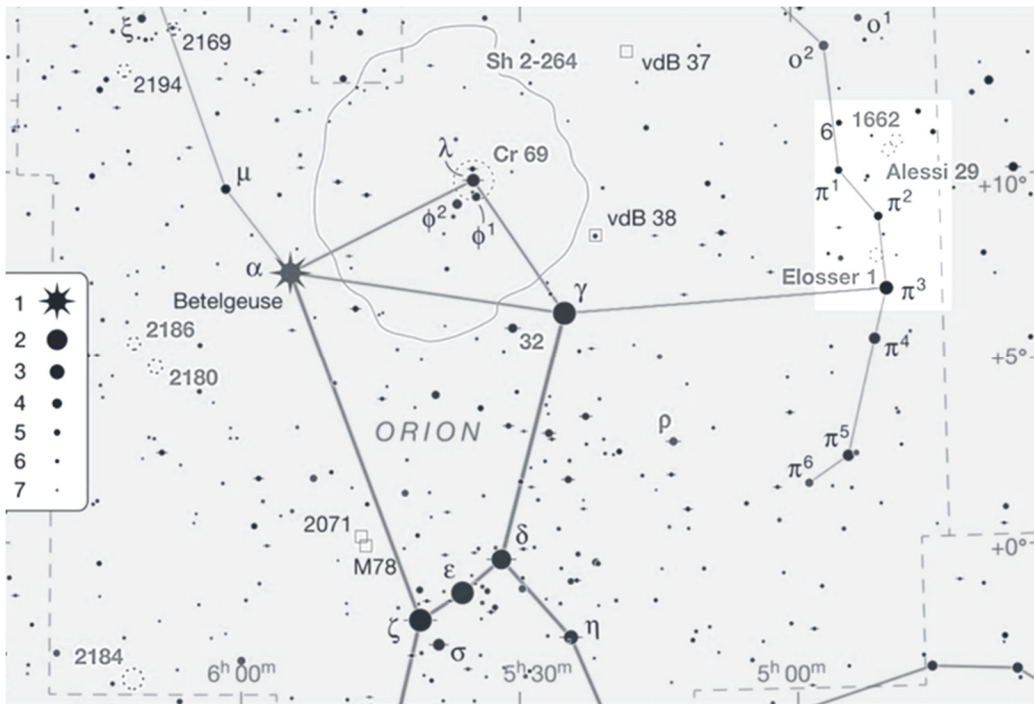
✚ Satellite viewing for New Braunfels (works for Canyon Lake too). After 5 am and before midnight.

- From Heavens Above.

Satellite	Date	Start Time	Start Loc	Max Alt °	Travel Toward	Note
ISS	02/21	06:37	W	28	NE	Low above horizon
"	03/11	07:06	NW	41	SE	
"	03/13	07:07	NW	78	SE	Goes between Mars and Jupiter
"	03/14	06:22	NW	50	SE	Swings by Vega, Altair, planets
"	03/17	20:34	SW	60	NE	Close to Sirius, Procyon
"	03/18	21:25	WSW	19	N	Close to horizon and Venus
"	03/19	20:35	WSW	33	NE	Close to Venus, Cassiopeia, Polaris
Hubble	02/21	19:04	WSW	46	E	Between Orion and Canis Major
"	02/22	18:53	WSW	54	E	Might clip M42 (Orion)
"	02/29	19:21	W	37	SE	Through Canis Major's butt
"	03/17	07:13	WSW	36	E	Close to Saturn, Jupiter, Mars, Moon
"	03/19	06:53	WSW	51	E	

## My Observing Pick: Orion

Go beyond M42 and M43. Orion is packed with other treats. He might be a pinhead, but his head, big shield and other areas of this constellation offer a lot. Check them out.



- Sky and Telescope

Iridium Flares – No longer predictable, Iridium satellites have been decommissioned.

## Spitzer Infrared Space Telescope – Gone but not forgotten

We can't see in infrared. For better or worse, our eyes rods and cones just do not have sensitivity to those longish wavelengths of light. What would we see if we could suddenly see in infrared? It would be wild! Everything and anything giving off heat would be glowing, and in infrared warmer means brighter. Ever see photos taken with infrared sensitive media? They look eerie, everything glowing, even leaves on trees. Infrared sensitivity helps mosquitoes find us in the dark and the best spots to bite too.

Life in the infrared would be way different. Well, we don't see infrared so that concept is moot, but we have developed equipment sensitive in the infrared spectrum. Night vision goggles for example are useful for spotting people or critters sneaking around in the dark. In astronomy the infrared spectrum helps us see stuff that isn't hot enough to spot otherwise. Another fun thing about infrared is it can cut through dust so we can detect stuff hidden from optical telescopes.

Way back in 1946 astrophysicist Lyman Spitzer, Jr. proposed a space-based telescope...years before we had any satellites in orbit! When NASA was born Spitzer petitioned them to get a telescope in space. NASA started placing telescopes in orbit on rockets alright, but they weren't infrared telescopes. The first telescopes/instruments in orbit were for gamma ray, x-ray, and ultraviolet. When the Space Shuttle program was born and NASA was looking for payloads, you got it, one was a telescope. In 1990 NASA placed the magnificent Hubble space telescope in orbit via shuttle Discovery. Hubble still operates today but not much in the infrared.

What's the big deal about placing an infrared telescope in space? Heat. Remember, infrared is heat and the Earth and most everything on Earth generates heat. Not the ideal place for an infrared telescope. Too much background noise. Even so, there are some ground-based telescopes that can study the cosmos in infrared, albeit with much less sensitivity than a space-based telescope.

NASA launched its SIRTf (Space Infrared Telescope Facility) in May 2003, and placed in a heliocentric orbit, not an Earth orbit. This keeps the telescope far away from Earth's heat. Nevertheless, to produce high sensitivity and low noise, the telescope had to be cooled with liquid helium, to a cool 5 degrees K (-450 degrees F). It has helped astronomers' study proto-stars, extrasolar planets, life giving molecules in proto-planetary material around young stars, and some of the most distant and oldest galaxies known.

So, what about Spitzer? SIRTf was re-named Spitzer in December 2003 in his honor. It ran out of cooling liquid helium in 2009, reducing its sensitivity, still useable however, and was retired at the end of January 2020. Say goodbye to a great one.

Eric Erickson

## Coming up: **OUR 248<sup>th</sup>** ASTRONOMY CLUB MEETING

Thursday, **March 19<sup>th</sup>**, 2020, from 7 – 9:00 p.m., held in the conference room of TJ's restaurant on Loop Road (337). Have dinner, snack, dessert, and/or a beverage if you like. The New Braunfels Astronomy Club can be reached at [www.astronomyntx.org](http://www.astronomyntx.org) or Mick Homer [mhomer2012@yahoo.com](mailto:mhomer2012@yahoo.com)

# New Braunfels Astronomy Club Meeting

Date:

## Agenda

- Open meeting and introduce new members
- Interesting observations, experiences
- Show and tell
- What's in our sky this month? [Newsletter and Abrams Sky Calendars](#)
- What's going on – events, outreach
- Main feature(s)
- Open for discussion
- Feedback and close the meeting