

# PizzaGram

**Source:** <http://sci.tech-archive.net/Archive/sci.astro.amateur/2004-07/1287.html>

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**From:** starlord (*starlord\_at\_despammed.com*)

**Date:** 07/08/04

Date: Thu, 8 Jul 2004 07:55:32 -0700

**Subject:** PizzaGram – July 10, 2004 Star Party

Arc to Arcturus, Spike to Spica, and Pass to (me) Pizza!

Greetings Fellow Stargazer,

Hawaii is the most isolated population center on the face of the earth: 2,390 miles from California; 3,850 miles from Japan; 4,900 miles from China; 5,280 miles from the Philippines! It takes five hours by jet to get here today from the South Pacific or from the U.S. mainland. Imagine what time it took for a sailing craft from the South Pacific, headed north to an unknown destination. For the modern air traveler, the islands suddenly jump out, magically and improbably in the middle of the sea. Imagine the intense emotions of a Marquesan about 250–400 A.D. who spotted land after 30 days at sea during a voyage into the unknown.

Honolulu's zenith star (the star that rises directly above it), is called Arcturus and was one of the major navigational tools the ancient voyagers used to find Hawaii. When it travels directly overhead and the North Star is 21 degrees about the horizon, you can stop paddling and look for us at the Star Party.

The Hawaiians call Arcturus, Hokulea (hoe koo lay uh). Hokulea means "Star of Joy". It is the fourth brightest star in the sky: 1st is Sirius, then Canopus, next is Rigil Kentaurus and then come our ole friend Arcturus.

If Arcturus is the brightest star shining very high in the southwest after dark then it's Vega shining brightest high in the east. Look a third of the way from Arcturus to Vega for the dim semicircle of the constellation Corona Borealis, the Northern Crown or as I call it, "Gary's Half of Pizza".

Well... speaking of Pizza, bring a couple of halves to this month's Star Party, and I will point out Corona Borealis to you! Sooo... join us for the July 10th Star Party at Dillingham

Air Field and bring at least a half of Pizza with you!!!

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Star Party Invitation for July 10th  
Sponsored by the Hawaiian Astronomical Society  
<http://www.hawastsoc.org>

Dillingham Airfield – before sunset (7:18 pm)  
(Star Party Directions are at the end of this message)

Bring:

<http://bishopmuseum.org/planetarium/skyWatch/2003/07/julsky03.jpg>

Here is where I go to check the weather on a Star Party Night:

<http://www.wunderground.com/radar/radblast.asp?num=6&delay=15&scale=1&nocluster=0&ID=HMO&type=NOR&lat=0&lon=0&label=you>

If it is clear, you will be able to see many astronomical sights.  
It's now that time of year to see the Hercules Globular Cluster,  
Jupiter, Arcturus, the Summer Triangle, as well as many other  
heavenly sights!

If you won't be in Hawaii, fear not. Check this link for a Star  
Party near you!

<http://SkyandTelescope.com/resources/organizations/>

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If you miss this month's HAS Star Party then join us at the next:

\*\*\*\*\* 2004 \*\*\*\*\*

August 7th  
September 18th  
October 16th  
November 6th  
December 4th

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Time to Take a Quiz!

<http://hubble.uhh.hawaii.edu/quiz/shortquiz.html>

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### ARCTURUS (Alpha Bootis)

Among the very brightest of stars, shining with a soft orange light,  
it is Arcturus that lights our summer skies. It is one of three  
luminaries that partition the northern sky into very rough thirds,  
the others being summer's Vega and winter's Capella. Of the three,  
Arcturus, the Alpha star of the constellation Bootes, the Herdsman,  
is slightly the brighter, making it the brightest star of the

northern hemisphere and the fourth brightest star of the entire sky, following only Sirius, Canopus, and Alpha Centauri. Arcturus, the "Bear Watcher," follows Ursa Major, the Great Bear, around the pole, "arktos" being the Greek name for "bear," from which our word "arctic" is derived by reference with the constellation of the Greater Bear.

Arcturus is located at a distance of 37 light years, and became famous when its light was used to open the 1933 world's fair in Chicago, as that light had left the star at about the time of the previous Chicago fair in 1893. It is a classic orange class K (K1) giant star with a precisely defined surface temperature of 4290 degrees Kelvin. To the eye, it shines 113 times more brightly than our Sun. Its lower temperature, however, causes it to radiate considerable energy in the infrared. When this infrared radiation is taken into account, Arcturus actually shines almost twice as brightly, releasing 215 times more radiation than our Sun, from which we find a diameter 26 times solar, about a quarter the size of Mercury's orbit.

Arcturus is close and large enough so that its angular diameter of 0.0210 seconds of arc can easily be measured, leading to a very similar direct determination of 25 times the solar dimension and providing nice confirmation of stellar parameters. Arcturus has a velocity relative to the Sun that is higher than other bright stars. Compared with the set of surrounding stars, which orbit the Galaxy on more or less circular orbits, it falls behind by about 100 kilometers per second (as do several others of the "Arcturus Group"). The lagging movement has long suggested that the star comes from an older population of the Galaxy. Consistently, it is somewhat deficient in metals, having only about 20 percent as much iron relative to hydrogen as found in the Sun. A more intriguing suggestion is that the star actually comes to us from a small galaxy that merged with ours some 5 to 8 billion years ago. As a giant, weighing in at around 1.5 times the mass of the Sun, it has ceased the fusion of hydrogen in its core. Though it is somewhat brighter than we would expect for a stable helium fusing star, helium fusion to carbon has probably already begun. Such stars are not expected to have magnetic activity like the Sun, but very weak X-ray emission suggests that Arcturus indeed is magnetically active and has a hard-to-observe "buried corona."

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### Boötes

Some say that Boötes is the most ancient constellation in the sky. Indeed, it has been recognized by numerous cultures in slightly different forms. Even the Greeks were not clear on its history. The first reference to the name Boötes comes from "The Odyssey" by Homer almost three millennia ago.

In one of his most popular incarnations, he is called the Hunter and, with his Hounds (Canes Venatici), he eternally circles the Bears, Ursa Major and Ursa Minor, around the North Pole. In fact, the brightest star in Boötes is Arcturus, which can be loosely translated as "Bear Guard."

He is also called the Herdsman and his journey around the pole represents his task of keeping the celestial beasts together. Just like my bordercollie dog, Hoku, who rounds up pizzas for me.

There is no single definitive myth associated with this constellation, but it seems to have impressed early civilizations with its resemblance to a human torso (a kite-like shape, sometimes with legs or a raised arm). The most ancient associations from the area of the eastern Mediterranean and Middle East are that of herdsman, cart driver, and plowman. In Greek literature, the name Boötes (thought to be derived from ox-driver or herder) is mentioned in Homer's *Odyssey* in a long and complicated multi-generational story of intrigue. The story starts with newborn twins, whose father was Poseidon, who were abandoned on Mt. Pelion to die and later rescued and raised by a herdsman. One of the twins was named Boeotus and went on to be reclaimed by his maternal grandfather and to inherit part of his kingdom. An Egyptian legend saw Boötes as a guardian goddess in the form of a Hippopotamus who kept the evil pole stars under control. An Arab legend saw the same pole stars as a flock of sheep herded by Boötes.

Yet another Greek myth says that he was the son of Demeter, the goddess of agriculture. Supposedly he was given a place in the sky for inventing the plow. They saw Ursa Major as a plow, and saw the human figure in Boötes as the person who first taught plowing and agriculture to humans. In that story, the knowledge of agriculture is given to humans by Demeter through a herder named Triptolemus. Demeter rewards him for identifying Hades as the kidnapper of her daughter Core (also known as Persephone).

The Romans saw the stars of Ursa Major as both the Triones, a mythical group of oxen, and a plow, and saw the figure in Boötes as the ox driver and ploughman.

Other Greek legends regard the figure in Boötes as a keeper or driver or chaser of bears, represented by the constellations Ursa Major and Ursa Minor. The most prominent star in Boötes is the 4th brightest star in the sky, an orange-yellow giant known as Arcturus, which means "guardian of the bears". Arcturus was an alternate name of this constellation. It is not clear which came first, seeing Ursa Major and Minor as bears, or the idea of the star Arcturus as a guardian of bears. In any case, versions of the legend of Callisto and her son Arcas, one or both of whom were transformed into bears and placed in the sky by Zeus, are associated with Boötes. Later, in the 17th Century, the astronomer Hevelius created two bear-hunting

dogs for Boötes with the constellation Canes Venatici.

In a completely different interpretation, ancient Chinese astronomers also placed significance on Arcturus. They saw the star as one of the horns of a giant dragon in a large constellation that stretched from Boötes to the constellation Virgo. The full moon appearing near Arcturus was a sign of the new Chinese year.

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### The Wanderers (The Planets) this Month

Mercury and Mars are very deep in the glow of sunset. Using binoculars, look for them a little above the west-northwest horizon about 50 minutes after sundown.

Venus is coming into view low in the glow of dawn. Look for it above the east-northeast horizon about 45 to 60 minutes before sunrise. It's getting a little higher every morning. Use binoculars to look for much fainter Aldebaran just 1° or 2° to Venus's right or lower right all week.

Jupiter shines brightly rather low in the west during and after twilight. Look for much fainter Regulus to its lower right, by more than a fist-width at arm's length. Jupiter sets around 11:30 p.m. daylight saving time.

Saturn is hidden in the glare of the Sun.

Uranus and Neptune are well up in the southeast by 1 a.m. daylight saving time.

Pluto (magnitude 14, in Serpens Cauda) is high in the south after dark.

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### Annual Meteor Showers

- Quadrantids: January
  - Virginids: March/April
  - Lyrids: April
  - Scorpiids: May
  - Delta Aquarids: July
  - Perseids August
  - Piscids: September
  - Orionids: October
  - Leonids: November
  - Geminids: December
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Find what is moving overhead after sunset:

<http://www.bester.com/>  
<http://liftoff.msfc.nasa.gov/RealTime/JTrack/3d/JTrack3d.html>

Check out when the next Iridium Satellite is available for you to see:

<http://www.heavens-above.com/Neighbours.asp?PlaceID=593409>  
(for non Oahu Star Gazers...)  
<http://www.heavens-above.com/selecttown.asp?CountryID=US>

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Check out:

<http://www.seds.org/messier/xtra/12months/m-jul-i.html>

and bring the above list...

As for the rest of the Messiers, check out  
<http://www.hawastsoc.org/deepsky/messier.html> It also has a link to:

<http://www.hawastsoc.org/messier/index.html>  
(all the Messier Objects as photographed by HAS's local Jay Wrathall)

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Star Party Directions

(<http://www.hawastsoc.org/directions/dillingham.html>)

To reach the Dillingham observing site, take the H2 to the end at Schofield Barracks. Drive past Schofield and follow the signs to Waialua. At the Y intersection at Waialua, bear left and pass under the bridge. Drive out of town a few miles until you reach Dillingham Airfield. Dillingham is several miles long. It has three gates. You need to drive to the far end to the third gate (marked as Gate 1 on the color map). When you enter the gate, the road will curve left behind some hangars. It will then take you through a very sharp S curve. 1/4 mile beyond that is a stop sign in the middle of nowhere. Turn right at the stop sign, and you will be there. You can find me by looking for the big red telescope in the corner with a table with lots of pizza on it.

You will need to reach the site before sunset in order to find the gate open!!!

A few words on light. We try to maintain dark conditions at the site. Therefore we have certain rules about light. First, no white flashlights. The only flashlights that you should use are not too bright, red ones.

When entering and exiting the site, do not use headlights. Some cars now can't turn off their headlights. If you have a car like that please park nearer the windsock than the telescopes. Point it away from the telescopes. Headlights make you lose your night vision for up to 30 minutes. It immediately ruins any astro photography that

might be in progress.

Bring some warm clothes, something to sit on, some real powerful bug spray, a dim or red covered flashlight and some munches to share with your friends.

Remember there is an absolute need to remain clear of the runway, and anyone attending the star party needs to remain in the immediate star party area. Do not be wandering around in areas where we are not permitted. Especially near any planes (parked or moving)!

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### Bishop Museum Planetarium Happenings

Daily Planetarium schedule:

(808) 848-4136 for pre-recorded sky information and planetarium schedule.

- 11:30 a.m. Ý Explorers of the International Space Station (45 Minutes)
- 12:20 p.m. Ý Explorers of Polynesia (in Japanese , 30 Minutes)
- 1:00 p.m. Ý The Sky Tonight (in English, 45 Minutes)
- 3:30 p.m. Ý Explorers of Polynesia (in English, 45 Minutes)

The Sky Tonight, an hour-long sky talk with Sam Rhoads, occurs on the first Monday, at 7:00 PM. Reservations are necessary, since Sam's shows often fill. \$4 for adults, \$3 for kids, free to Bishop Museum members and Hawaiian Astronomical Society members. Reservations for The Sky Tonight: 848-4168.

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After Dark with Stars in the Park  
Waialeale Community Park  
OR... Kahala Park  
(Weather permitting)

\*\*\*\*\* 2004 \*\*\*\*\*

- July 24th
- August 21st
- September 25th
- October 23rd
- November 20th
- December 18th

FROM DUSK to 9:30 PM  
Bring your children! Tell your friends!

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Visit the cosmos via:

The HAS HomePage: <http://www.hawastsoc.org/> or go to  
(or show up at meeting 7:30pm first Tue of month)  
and check out the Bishop Museum Planetarium Home Page  
<http://www.bishopmuseum.org/planetarium/>  
and the Institute for Astronomy Colloquia/Seminars  
<http://www.ifa.hawaii.edu/>  
[http://apollo-society.org/launchpad39\\_A.html](http://apollo-society.org/launchpad39_A.html)

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Keep Looking Sky Ward...Gary Ward

<http://homepage.mac.com/macyoda/PhotoAlbum6.html>

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"The computer is to the mind as the amplifier is to sound."

Paul Maurer

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A day without sunshine is like night!

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Outgoing mail is certified Virus Free.

Checked by AVG anti-virus system (<http://www.grisoft.com>).

Version: 6.0.716 / Virus Database: 472 - Release Date: 7/5/04