



Pictures of Globular Cluster M5 and galaxies M65 & M66 by  
LAS member Brian Kimball

**Longmont Astronomy Society Newsletter**  
**May 2011**

### **From the President:**

### **LAS Meeting – Thursday May 19th**

The May meeting of the Longmont Astronomical Society is this Thursday, March 19<sup>th</sup>, at the IHop Restaurant, 2040 Ken Pratt Blvd., Longmont, CO. Please join us for dinner around 6 pm at the restaurant. The general meeting will begin at 7 pm.

The speaker will be Bill Tschumy and the title of his presentation is "Milky Way Rising: Seeing the Forest and the Trees". Bill has been active in amateur astronomy for 26 years and loves to share his knowledge of the sky with others. He is developer of outstanding astronomical software, including the iPhone app Sky Safari. The Sky Safari app was winner of the Best-Of-Show award at MacWorld 2010.

Following Bill's presentation we will have a business meeting. Discussion items this month are treasurer report and planning for "Beginning Astronomy Class" for City of Longmont Recreation Center this fall.

---

### **In the sky this month:**

#### **Meteor Showers**

Nothing major in May....

#### **Comets:**

Comet C/2009 P1 (Garradd) appears to be making its first foray into the inner solar system. Astronomers sometimes have a hard time forecasting how bright such objects will become, but early predictions suggest it could reach 6th magnitude by autumn. This ball of ice and dust is still about 300 million miles from Earth, so it now glows at 10th magnitude. You'll need a 4-inch or larger scope and a dark observing site to see the comet's soft light and slightly oval shape.

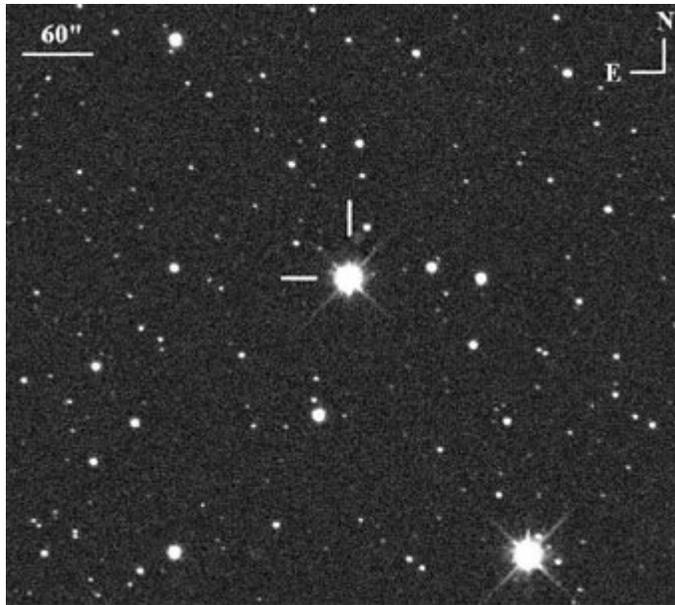
#### **Planets**

Mercury, Venus, Mars, and Jupiter are all rising about 4:20-4:40 AM and are bunched together in the eastern sky at sunrise. Don't miss this batch of beauties!

**Saturn:** Still the pride of the evening sky – great time to watch the increasing angle of the rings, and a better time to get the youth of America turned on to astronomy.

### **Interesting Stars/Galaxies**

## **T Pyxididis Finally Blows Again**



T Pyxidis in outburst on April 15th. North is up. See [before-and-after animation](#).

*Ernesto Guido and Giovanni Sostero*

The recurrent nova [T Pyxidis](#), which had its last outburst in December 1966 and has been *very* overdue for its next, finally began a new flareup on April 14th. By the next day it had brightened to about magnitude 8.4. In 1966–67 it reached 6.5 within about a month.

Here's a [blink animation](#) showing before and after, courtesy Ernesto Guido and Giovanni Sostero in Italy. South is up.

The star is in the dim constellation Pyxis east of Puppis and Canis Major. Pyxis is currently fairly high in the south-southwest right after dark, in good view for observers at north temperate latitudes and points south. The star is at declination  $-32^\circ$ .

Here are [finder and comparison-star charts](#) from *Sky & Telescope*, and larger-scale comparison-star charts [15° wide](#), [5° wide](#), and [2° wide](#) courtesy of the [American Association of Variable Star Observers \(AAVSO\)](#). On all charts north is up and east is to the left. The numbers next to stars are comparison-star magnitudes to the nearest tenth with the decimal points omitted.

Sky and Telescope: Targets for May 5-12, 2011

Centaurus A (NGC 5128)

Spiral galaxy M101

Spiral galaxy NGC 5248

### **Club Calendar:**

#### **Sunday, May 22**

Tonight marks an opportunity for you to spot Saturn's four brightest moons as they string out in a line that passes through the planet.

## Upcoming Star Parties and Events

- ALCON 2011, Bryce Canyon, Utah on June 29 – July 2
  - WUTS 2011, Fox Park, WY on July 28-30
  - Nebraska Star Party, Merritt Reservoir, NE on July 31 – Aug 5
- 

**Fiske Planetarium:** Admission costs \$3.50 for kids and seniors and \$6 for adults  
Live Talk by Astronaut Alvin Drew on June 3<sup>rd</sup> at 7:30pm!

NASA Astronaut Alvin Drew flew on STS-133, which was his second space flight and the last mission of Space Shuttle "Discovery". He will talk about his time as an Astronaut and what it is like to be at the International Space Station. While at the International Space Station Alvin read some books to the children of Earth, including "Max Goes to the Moon" by local author Dr. Jeff Bennett. Join the Department of Astrophysical and Planetary Sciences, and Fiske Planetarium for what ought to be a great evening. This show is for all ages.

### **June 17: One Mile Nearer the Heavens: A History of Colorado Astronomy:**

Join Keith Gleason, manager of CU's Sommers- Bausch Observatory (SBO), in this tribute to the Colorado astronomical and space community as we celebrate NASA's 50th anniversary.

### **Internet Resources:**

[http://www.youtube.com/watch?v=iBl\\_FOONrB0](http://www.youtube.com/watch?v=iBl_FOONrB0) Sun is getting going into the next solar max, and you can watch a movie of the progress...

The Photopic Sky Survey is a 5,000 megapixel photograph of the entire night sky stitched together from 37,440 exposures. Large in size and scope, it portrays a world far beyond the one beneath our feet and reveals our familiar Milky Way with unfamiliar clarity. When we look upon this image, we are in fact peering back in time, as much of the light—having traveled such vast distances—predates civilization itself. <http://skysurvey.org/> for the picture, zoomable or the version with the constellation superimposed. Very impressive for an amateur! Photo processors should take a look at his techniques.

### **Upcoming Space Missions:**



(PhysOrg.com) -- The AMS particle detector will take off on 29 April 2011 (delayed) at 21.47 CEST onboard the very last mission of the space Shuttle Endeavour. AMS, the Alpha Magnetic Spectrometer, will then be installed on the International Space Station from where it will explore the Universe for a period of over 10 years. AMS will address some of the most exciting mysteries of modern physics, looking for antimatter and dark matter in space, phenomena that have remained elusive up to now. **The AMS was built/designed by the [University of Michigan](#), known to be the alma mater of the editor.**

The Alpha Magnetic Spectrometer-2 (AMS) is a state-of-the-art particle physics detector to be delivered to the International Space Station. Using a large magnet to create a magnetic field that will bend the path of the charged cosmic particles already traveling through space, eight different instruments will provide information on those particles as they make their way through the magnet. Armed with that information, hundreds of scientists from 16 countries are hoping to determine what the universe is made of and how it began, as the AMS searches for clues on the origin of dark matter and the existence of antimatter and strangelets. And if that's not enough, there is also the information it could provide on pulsars, blazars and gamma ray bursters and any number of phenomena that have yet to be named.

Sitting on the ground at Kennedy Space Center, the AMS measured an average of 400 particles per second. In space, it is expected to see 25,000 particles per second. If dark matter exists, the AMS will be able to detect it. For instance, one candidate for the particles that are dark matter is the hypothetical, elementary neutralino particle. If neutralinos exist, their collision could create excesses of electrons and anti-electrons – positrons – that could then be detected by the AMS. The AMS could also detect antimatter and help answer another key question. Antimatter is made up of particles identical to those of regular matter, but with opposite electric and magnetic properties.

### **Current Space Missions:**

The Gemini South Telescope has imaged the Lagoon Nebula in unprecedented color and resolution. Visit [http://gemini.edu/gallery/v/Previous-Featured-Images/M8\\_lagoon\\_rim2.jpg.html](http://gemini.edu/gallery/v/Previous-Featured-Images/M8_lagoon_rim2.jpg.html) and download the 45 meg version if you want to be astounded.

## **Local Classes**

### **Boulder Cosmology Group**

Meets at 7PM on the first and third Thursdays of the month in the Boulder Creek Room at the Main Boulder Public Library.

---

For a full description of the series, with descriptions of each lecture, visit [http://www.teach12.com/tgc/courses/course\\_detail.aspx?cid=1830](http://www.teach12.com/tgc/courses/course_detail.aspx?cid=1830).

**May 19, 2011**

---

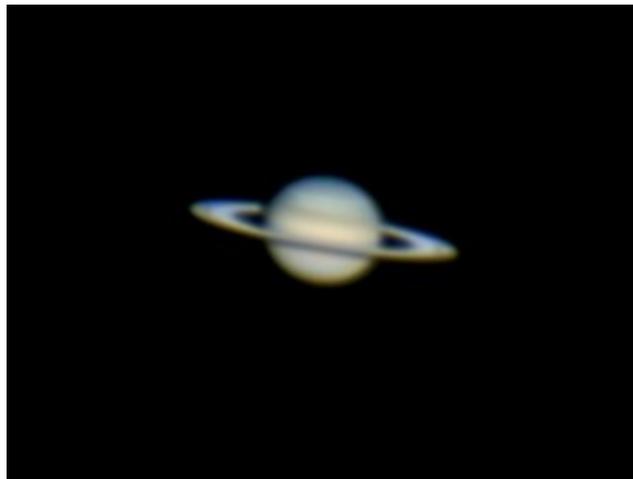
### **13. The Cosmic Microwave Background**

By looking sufficiently far away, and hence back in time, we can witness the 'flash' from the big bang itself. This arrives from all directions as a feeble glow of microwave radiation called the cosmic microwave background (CMB), discovered by chance in 1964.

### **14. Conditions during the First Million Years**

You visit the million-year-old universe to take in the sights: a slowly changing rainbow sky, a low-density super-hot atmosphere, and everywhere, brilliant light.

OK, a little room.... let's put in one of Gary's pictures!



Now get out there and look for yourself!