

Newsletter of the Baton Rouge Astronomical Society

April 2010

**The Next Meeting of the
Baton Rouge Astronomical Society
will be April 12, 2010
at 7 PM.**

We will be meeting at the Highland Road Observatory. The meeting starts at 7 PM. Please arrive a few minutes earlier.

PROGRAM NOTES: *NASA and the Columbia Scientific Balloon Facility (LaSPACE)*

Hey Everyone,

This month's meeting will feature a presentation from Dr. Andy Hollerman, Associate Professor of Physics at UL Lafayette. Since 2003, UL Lafayette students have been working on a project funded by the Louisiana Space Grant Consortium (LaSPACE) to build devices to measure Cosmic Rays. They have been involved with NASA and the Columbia Scientific Balloon Facility in launching 4 balloons and 2 rockets. They have another rocket launch scheduled for June. This is just another example of some of the real space-related science projects that are going on at our universities. We hope to see you out at the observatory for this presentation and (once again I will risk a jinx...) some viewing if we can finally get a clear night for a BRAS meeting!

See you soon!

Ben Toman

BRAS Vice-President

ASTROPHOTOGRAPHY ANYONE?

Have you ever wanted to do astrophotography? Me too! But almost every place I look seeking information, the first thing I find is a roadblock of comments about how expensive it is to get started. \$900 for a camera? \$1500 for a decent telescope! More money for the software to process images, and then good luck trying to figure it all out. Well I'm here to tell you it's not entirely true. You may be over half way to taking some fun and enjoyable images.

I have embarked on a journey into the field of astrophotography for well under the thousands of dollars many will say you need to spend. I took a look at the point-and-shoot digital camera I already had and saw that it, like many small cameras of this type, could accept a T-ring adapter. (Check your camera. Is there a ring with some tiny screw threads around the shutter/lens area? Yours might, too!) Next, I found a website called telescopeadapters.com through an advertisement in Sky and Telescope. That site has Digi-Kits available for many different makes/models of digital cameras that allow you to attach the camera to most common 1.25" eyepieces. Tada! One third of the way to taking some astro images.

Now I had a camera I could attach to a telescope...but no telescope. Someday I will have that great 12" scope on a tracking mount all hooked up to my laptop to control it, but today is not that day. I emptied the piggy bank and found I could afford a telescope for around \$50. Ouch. But once again, Sky and Telescope to the rescue! I saw a review in one of the issues on the Celestron Firstscope, a 3" newtonian reflector. I was skeptical, but I found one for \$39.99 online so I figured I'd give it a shot. I love it! It's a great little table top scope. (I put mine on a TV tray out in the front yard.) One hitch in the plan, though. The Digi-kit adapter won't fit on the included eyepieces. Fortunately, Valentine's Day was just around the corner and my wonderful wife "surprised" me with an eyepiece kit. Bam! Two thirds there.

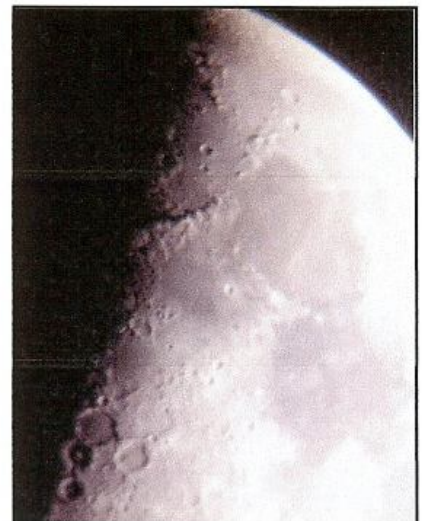
The easiest part of all of this was the software. (And keep in mind, for a lot of the images you will take, you may not even NEED processing. I take lots of Moon photos and just email them to people.) If you came to the BRAS meeting in February, Lon Shelton told us of a whole slew of programs that are available for FREE online. Woohoo! Let's take some pictures. And because we are using a digital camera, we can also take videos.

I've been having a great time taking images of the moon with my tiny scope, but I also take advantage of being a BRAS member by visiting the HRPO often on the weekends and using some of the telescopes out there for some planetary imaging. (There are more than a few reflectors and refractors just dying to see some light!) Are my images on par with those of astrophotographers with all the bells and whistles? Not so much. But they are some cool images and it's fun to email them around to my friends and family. (Plus, I'm getting better!) Most importantly, it got me in the door to this hobby and showed me that while it CAN be confusing, difficult and expensive, it doesn't HAVE to be that way at all levels.

Take a look at what you've got already. Do you have a telescope already? A couple of eyepieces? A camera that could accept an adapter, perhaps. Like I said, you may already be on your way!

(And don't forget to log on to the BRAS Forum to ask questions or share your experiences!

Thanks, Ben



Notes Form HRPO

Lecture Series:

Fridays, 7:30 p.m.

April 9: "Apollo 13 40th Anniversary" Okay, Houston, we've had a problem here." That chilling statement was transmitted through space from the brave crew to Mission Control. It soon became clear to Commander James Lovell, Command Module Pilot Jack Swigert and Lunar Module Pilot Fred Haise that they had not only "lost the moon" but were also in a very precarious situation. It was the determination, creativity and ingenuity of the crew and NASA personnel that held sway, transforming a potential tragedy into a triumph of intelligence, engineering and quick thinking. HRPO Center Supervisor Tom Northrop's Apollo anniversary lectures continue with this harrowing and exciting entry.

April 16: "Quantum Materials" Last month, Dr. Sheehy introduce the HRPO audience to the concept of physics at a quantum level. Tonight, Dr. Ilya Vekhte of LSU's Department of Physics and Astronomy will highlight the intriguing "materials" exhibiting quantum phenomena. Ready to continue a wild journey?

April 23: "Hubble Space Telescope 40th Anniversary" In 1923, Hermann Oberth described the possibility of sending a telescope into space. In 1990, that dream came true. The first major optical telescope to orbit the Earth--and more than a few of its images--have become icons instantly recognizable to even those who don't have a deep-rooted interest in the Universe. The incredible story of Hubble's inception and launch will be presented.

April 30: "LIGO--The Hunt for Gravitational Waves" This night's lecture will be from Amber Stuver, a Postdoctoral Scholar at the Livingston section of the Laser Interferometer Gravity-Wave Observatory. Gravitational waves are ripples in the fabric of space-time. Dr. Stuver will describe the amazing cutting-edge science in progress here in Louisiana, and how history might soon be made!

Baton Rouge Astronomical Society Meeting

Monday, April 12, from 7-9 p.m./ FREE

Founded in 1981, BRAS has educated countless numbers of citizens in the joys of planetary and deep-skygazing, the perils of light pollution and factors to consider when buying a pair of binoculars or a telescope. BRAS members have published in "Astronomy," "Sky & Telescope" and "Scientific American." They have constructed their own telescopes and photographic platforms. They have entered robotics competitions and discovered asteroids. This month, ULL Professor Andy Hollerman will discuss his comic ray work at the Columbia Space Balloon Facility.

International Astronomy Day

Saturday, April 24, from 3-11 p.m./ FREE

For the fourth consecutive year, HRPO takes part in this fantastic worldwide event. The Civil Air Patrol, the Louisiana Geological Survey and the Louisiana Solar Energy Society return joining first-timers LIGO, CAMD, the Baton Rouge Metropolitan Airport and the Bluebonnet Swamp Nature Center. The Renaissance Sundial and the radio telescope will be in action, so don't miss IAU.

MESSAGE FROM HRPO

Spring is here again—in the form of carpenter bees! On the plus side, IAD is right around the corner.

The past few weeks at HRPO have seen some huge crowds for the lecture series. Maybe our expanded parking is paying off.

And the shuttle just went up. Unless funding is extended, there is just one more launch for each of the remaining shuttles (May, July and September).

Christopher

CALL FOR VOLUNTEERS: ON-SITE

International Astronomy Day: Sat, 24 April from 3pm to 11pm

As many volunteers as possible. I'm not joking. 488 visitors attended last year's IAD. This year we will have over ten exhibitors and are expecting at least 800 people. HRPO staff will need assistance with selling raffle tickets, staffing rides, physical science demos, portable telescopes and the like. Please call immediately so I can begin filling slots, and I appreciate all the help.

CALLS FOR VOLUNTEERS: OUTREACH

Kite Fest Louisiane (West Baton Rouge Soccer Complex): Sunday, 11 April from 11am to 6pm /// *Three volunteers needed, each for a three-hour shift.*

Louisiana Earth Day (Old State Capitol): Sunday, 18 April from 10am to 8pm /// *Four volunteers needed, each for a three-hour shift.*

Baton Rouge River Center: Thursday, 29 April from 10am to 1pm /// *One volunteer needed for a three-hour shift.*

LSU PHYSICS COLLOQUIA

All in Nicholson 109 at 3:40pm

15 April: "The Physics of Black Hole Accretion"

Chris Reynolds, University of Maryland

Here is the tentative schedule for **International Astronomy Day**. The observatory staff wants to make this the best IAD that we have had. To do we need your help. Please give us a call if you are able to volunteer.

IAD EVENT SCHEDULE

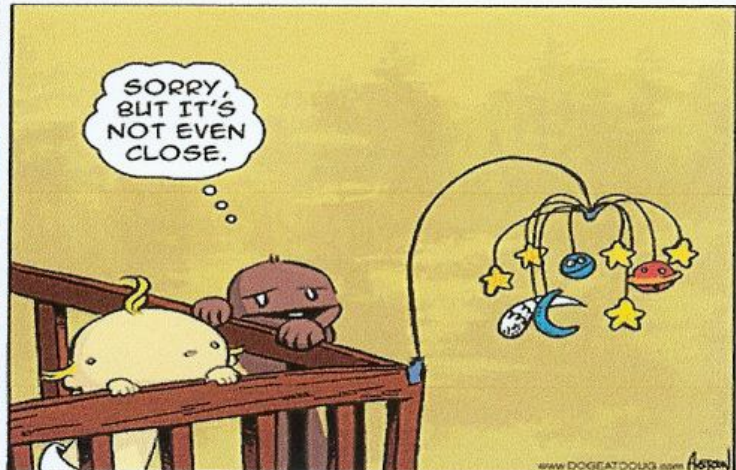
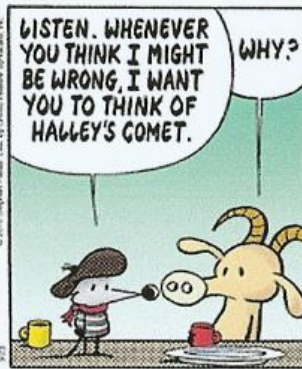
Saturday, 24 April 2010

Subject to change. Please check back for additions and updates

3pm to 4pm (Main Building): BEAUTIFUL SOUND PROPAGATION

The physics of music is a wonderful thing! The harpist Ashley Toman will be on hand to demonstrate how vibrations of particles through the air can encourage very happy emotions...

Spaced Out Comics



IAD EVENT SCHEDULE, continued

3pm to 5:15pm (Small Dome): SOLAR VIEWING

Our parent star (in the constellation Aries this day) is put into focus. Utilizing a solar filter—that's the only safe way to view the Sun directly—we'll show you an amazing view of the Sun in hydrogen-alpha light. Any sizable flares or prominences occurring at this time will be easily seen—and there's a good chance of that, as solar activity has increased in the past few months!

3pm to 5:15pm (Back Viewing Pad): RENAISSANCE SUNDIAL

We unveil an astounding object that is both scientific timekeeper and work of art—an amazing helical body that reflects a beam of sunlight onto the correct time notch. Feel free to return to it periodically and compare it with your “modern” timepiece. You'll be surprised by its accuracy.

3pm to 7pm (Outside Main Building): RIDING THE RADIO WAVES

In what serves as a “sneak preview” for ARRL Field Day, the Baton Rouge Amateur Radio Club will have a live “rig” set up to introduce visitors to the joys of broadcasting over those bands set aside just for “hams”. You can learn about meeting new people on the airwaves, help during disasters or emergencies—and even send your name in Morse code!

3pm to 7pm (Outside Main Building): CELESTIAL PERIPHERALS

Several organizations will have tables at IAD. The Baton Rouge Gem and Mineral Society will satisfy all urges rock and strata. The Louisiana Wing of the Civil Air Patrol will inform on the uses of aeronautics for search and rescue. The Louisiana Solar Energy Society will educate on the uses of that massive power source we'll have at our disposal for hundreds of millions of years. The Bluebonnet Swamp Nature Center will showcase “alien” plant species and the possibility of plants on other planets. And the Baton Rouge Zoo will be here with animals because...because some constellations are animals, and that's good enough for us!

3pm to 7pm = VENUS VIEWING

At this time the second planet from the Sun will be in the constellation Taurus, 90% illuminated (from our point of view, Venus goes through phases, like the Moon!) and about 50% further away from us than the Sun.

6:30pm to 8:30pm (Small Dome); 8pm to 11pm (Large Dome) = LUNAR VIEWING

At this time the Moon will be in the constellation Leo, 84% illuminated and approximately 362,000 kilometers away. We'll aim toward the “terminator”—the area where light meets dark—to show you astounding depths and slopes of the Moon's maria and craters.

8pm to 9pm (Main Building): MAGNIFICENT MAGNIFICATION

The Scope-on-a-Rope is in action at this time for visitors to bring small objects—within reason!—to magnify.

8pm to 11pm (Large Dome) = SATURN VIEWING

The farthest planet that can be seen with the unaided eye will be seen tonight with the aided eye. At this time the ringed beauty (which is currently being visited by Cassini) will reside in the constellation Virgo, roughly 1.3 billion kilometers from Earth—that's 807 million miles!

8pm to 11pm (Large Dome) = MARS VIEWING

In the constellation Cancer, the planet which has inspired innumerable flights of fancy—and more than a few flights of spacecraft—will grace our festivities for a three-hour visit.

Stargazers Camp

The tradition continues with this amazing space science day camp. Lunar phase exercises, celestial treasure hunt, a field trip and more. Parents may register in person at HRPO or online at Webtrac. The activity number is 241180.

Cost (in-parish): \$90, registration starts March 27 at 9 a.m.

Cost (out-of-parish): \$108, registration starts April 6 at 3 p.m.

Cost covers entire session; limit 30 per session.

Session 1: May 31- June 4 (Ages 6-7)

Session 2: June 7-11 (Ages 8-10)

Session 3: June 14-18 (Ages 11-13)

Session 4: June 21-25 (Ages 8-10)

Session 5: June 28- July 2 (Ages 6-7)

Session 6: July 5-9 (Ages 8-10)

Session 7: July 12-16 (Ages 11-13)

Session 8: July 19-23 (Ages 8-10)

Some Final Notes from Ben

We had a bit of a busy month in March! The star party at Hodges Gardens was a great time and one I'll be going to next year for sure.

For the first time, BRAS participated in Babel Con, a sci-fi convention here in Baton Rouge. I'd like to thank Art Barrios, Rodney Bell, Mike Carambat, Merrill Hess, Barrow Leake and Trevor McGuire for their help and efforts in providing some great science / astronomy presentations and telescope viewing. Babel Con really enjoyed having BRAS involved and hope we can do so again next year.

Trevor McGuire gave a presentation to the Astronomy class (Yes, I said Astronomy class!) at Dutchtown High School. (If YOU would like to share your astronomical knowledge with Ms. Hebert's class, please contact me via email [at tomanben@gmail.com](mailto:tomanben@gmail.com) or phone me (225) 313-3743 and we'll get it set up!)

Clear skies,

Ben

Remember, May is when we hold our club picnic. June and July we normally do not have our Monday meetings.

Craig Ed.

The Evening Sky Map

FREE! EACH MONTH FOR YOU TO EXPLORE, LEARN & ENJOY THE NIGHT SKY

Sky Calendar - April 2010

April is Global Astronomy Month. <http://www.gam-awb.org/>

3 Moon near Antares (morning sky) at 10h UT.
4 Mercury 3.0° WNW of Venus (19° from Sun, evening sky) at 8h UT. Mags. -0.6 and -3.9. Favors northern hemisphere.

6 Last Quarter Moon at 9:37 UT.

8 Mercury at greatest elongation, 20° east from Sun (evening sky) at 23h UT. Mag. +0.1.

9 Moon at apogee (farthest from Earth) at 3h UT (distance 405,002 km; angular size 29.4').

11 Moon near Jupiter (morning sky) at 18h UT. Mag. -2.1.

14 New Moon at 12:29 UT. Start of lunation 1080.

16 Moon near Venus (evening sky, 23° from Sun) at 11h UT. Mag. -3.9. Favors northern hemisphere.

17 Moon near the Pleiades (evening sky) at 4h UT.

17 Mars 1.1° NNE of Beehive cluster (M44) at 19h UT. Mag. +0.5.

21 First Quarter Moon at 18:20 UT.

22 Moon near Beehive cluster (M44) (evening sky) at 3h UT.

22 Moon near Mars (evening sky) at 5h UT. Mag. +0.6.

22 Lyrid meteor shower peaks at 17h UT. Active April 16-25. Radiant is between Hercules and Lyra. Expect 10 to 20 bright, fast meteors per hour at its peak.

23 Moon near Regulus (evening sky) at 19h UT.

24 Moon at perigee (closest to Earth) at 21h UT (367,141 km; 32.9').

25 Venus 3.5° SSE of the Pleiades (25° from Sun, evening sky) at 10h UT. Mag. -3.9.

25 Moon near Saturn (evening sky) at 19h UT. Mag. +0.8.

27 Moon near Spica (evening sky) at 13h UT.

28 Full Moon at 12:18 UT.

28 Mercury at inferior conjunction with the Sun at 17h UT. Mercury passes into the morning sky.

30 Moon near Antares (morning sky) at 22h UT.

More sky events and links at <http://Skymaps.com/skycalendar/>

All times in Universal Time (UT). (USA Eastern Summer Time = UT - 4 hours.)



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- STAR ATLAS & PLANISPHERES
- BOOKS FOR SKY WATCHERS
- TELESCOPES & BINOCULARS

All sales support the production and free distribution of The Evening Sky Map.

NORTHERN HEMISPHERE APRIL 2010

SKY MAP SHOWS HOW
THE NIGHT SKY LOOKS

EARLY APR 10 PM

LATE APR 9 PM

(Add 1 Hour for Daylight Saving)

SKY MAP DRAWN FOR

A LATITUDE OF 40°

NORTH AND IS

SUITABLE FOR

LATITUDES UP

TO 15° NORTH

OR SOUTH

OF THIS

MAP

Use the Big Dipper (or Plough) located in the northern sky to find Polaris, the North Star.

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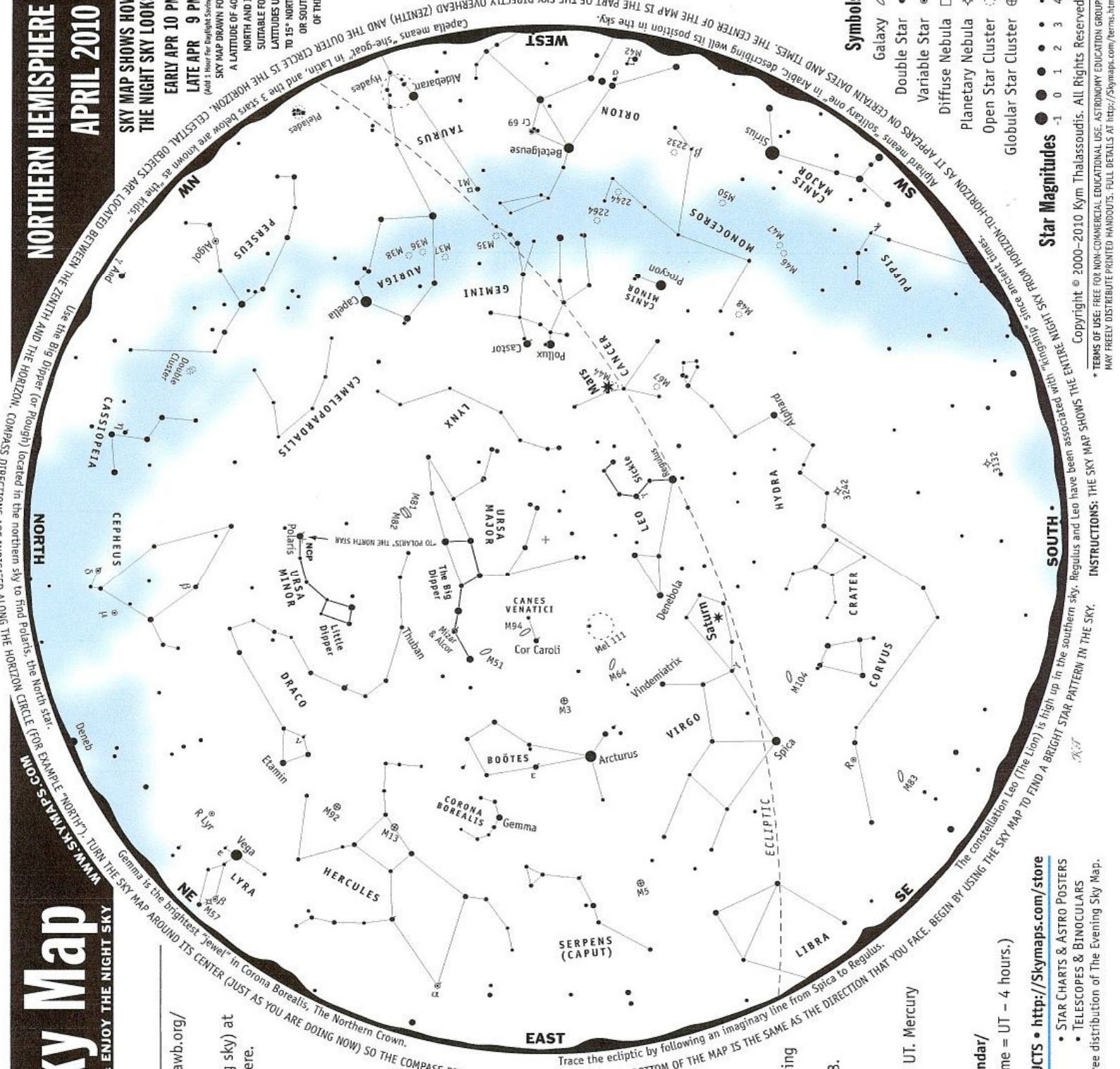
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Star Magnitudes

Galaxy

Double Star

Variable Star

Diffuse Nebula

Planetary Nebula

Open Star Cluster

Globular Star Cluster

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