SIDEREAL TIMES

Austin Astronomical Society

keeping astronomy weird since 1969

www.austinastro.org

March 2013

MONTHLY MEETING

March 8th, 2013
7:30 PM – 9:00 PM
ETC 2.136 - UT Campus
Engineering Teaching Center

Presenter: Kim VanCamp
Williamson County Astronomy Club
Topic: William Herschel

PRACTICAL ASTRONOMY

6:30 PM - 7:30 PM at ETC 2.136 prior to monthly meeting

"How to Prepare an Observing Plan"
Presented by Phil Schmidt

Join us after the meeting at Double Daves!

Austin Astronomical Society
Sidereal Times
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Sidereal Times is an official monthly publication of the Austin Astronomical Society.

President's Corner

AAS President, Joyce Lynch

This month we have several special events on the calendar.

On March 8th, 9th, and 10th, during the South by Southwest Interactive Festival, a full-scale model of the James Webb Space Telescope, scheduled to launch in 2018, will be on display near Lady Bird Lake. AAS and others have been asked to help conduct star parties in connection with the display for the many visitors expected. More information is available on page 7 and on our website in the Events section. http://tinyurl.com/JamesWebbSXSW

March 9th is the monthly members' star party at Canyon of the Eagles, and Member Services Chair Tim Brown is planning a Messier Marathon that evening. Look for more details on our website. http://tinyurl.com/AASMessier

Saturday, March 23rd, 8:30-9:30 PM is Earth Hour. This is a world-wide effort to show concern for the environment by turning off as many lights as possible. We will be at Austin City Hall from 6:30-10:30 PM. Check page 10 and also our website for more on this event. http://tinyurl.com/AASEarthHour

So keep your fingers crossed for nice spring temperatures and clear skies and come on out!

CENTRAL TEXAS STAR PARTY ON APRIL 5th AND 6th

Each year AAS holds the Central Texas Star Party (CTSP), a two-night event for members and guest amateur astronomers. We'll have dinners on Friday and Saturday evenings and lots of good (we hope) observing and lots of good (we know) conversations. This year we will have a couple of extra events on Saturday evening. The Ealing scope will be renamed for the late Larry Forrest, a long-time club member who was instrumental in making that scope operational for use in the Eagle Eye Observatory. Also, our current member Fred Ruof is donating to the club several scopes as well as the building to house them at EEO, and we'll dedicate that building that evening.

More details about CTSP will be available soon, but in the meantime, mark your calendar and plan to be there.

Calendar of Events

01 March 2013
Dam Star Party
6:30 PM - 11:30 PM
Mansfield Dam

02 March 2013
Public Star Party
6:30 PM - 10:30 PM
Canyon of the Eagles

03 March 2013
Stargazing at Wild Basin
6:30 PM - 9:30 PM
Wild Basin Wilderness Preserve

04 March 2013
Executive Committee Meeting
7:00 PM - 9:00 PM

08 March 2013
Practical Astronomy Session
6:30 PM – 7:30 PM
AAS Monthly Meeting
7:30 PM – 9 PM
UT – ETC 2.136

08-10 March 2013
Outreach Opportunity - SXSW
8th 9 PM - 10th 11:59 PM
Auditorium Shores

09-10 March 2013
Members-Only Star Party
AAS Messier Marathon
4:30 PM - 8 AM
Canyon of the Eagles

23 March 2013
Earth Hour
7 PM - 9:30 PM
Austin City Hall

Please see the AAS Calendar of Events webpage for more details:
http://tinyurl.com/bkytlqv

Executive Committee Minutes

By Lauren Rogers

4 February 2013

The meeting was called to order at 7:06 p.m. by President Joyce Lynch. Additionally present were: Ron Carman, VP; Dawn Davies, outreach; Mark Lyon, treasurer; Tim Brown, member services; Jim Spigelmire, communications; Erika Rix, newsletter; Jack Estes, ALCor; Lauren Rogers, Secretary; Vic Ellisor, Member at Large. A quorum was present.

A motion was made by Jim Spigelmire to approve December and January's minutes; the motion was seconded by Dawn Davies

Officer Reports

Treasurer We now have insurance again. We have people signed up to borrow the loaner scopes from now through this year. We will have new packages available soon.

VP Steve Bosbach will present this week on IDA. The March presentation will be on Herschel, and April will be Dawn Davies on constellations. We do not yet have a May presentation scheduled. We do not yet have a response from the San Antonio club yet regarding a joint meeting and/or observing night. Phil Schmidt will be getting back with us soon regarding ETC availability after his retirement.

Communications The website over the last month had 6700 page views with a 47% bounce rate, average time on the site ~3 minutes, average of 3 pages visited, 38% of visitors returned more than once, most traffic is direct. Yay! People are using the website, even with 10% international exposure. Jim will work with Erika and Jack to get some information about potential advertising/information from members only. We need to look at creating a communications framework: what will be our core communication (Yahoo! Group), the predominant method of information dissemination (the website), and what other media we will be using (Facebook, Twitter, Google+) and in what capacity. The communications chair needs to also be a moderator on the Yahoo group to help keep the conversation on astronomical topics. The communications team will also look into making the newsletter searchable (hashtags, keywords, etc.) The deadline is March 31 to submit the newsletter to the AL.

Equipment Concrete pads at COE are not going to be approved on LCRA land. Darin is also looking into Internet possibilities since the lodge's Internet is unreliable. Vic and Mark are going to shoot a video about the solar scope next week to get the directions for setup filmed so people can start borrowing it. They will have a set of paper directions and the video to go with the scope. We also have two scopes that are being donated to the club.

Member Services The practical astronomy meeting (Jim and Mike) will be about first telescopes. We had 20 cars out at the dam last Friday (40-50 people). We have a lot of new members, so we're on track with what we're trying to provide to them. April 5-7 is CTSP, and we need to be thinking about the format (potluck, BBQ, etc.) We will have the Ealing dedication on the 6th.

The Ruof observatory equipment is now in place, and Fred and Joyce will be going out soon to check it out. It will be dedicated the 6th as well. Possible Messier Marathon the 9th-16th (and the 9th is our Members Only night, but it could be postponed to the 16th in case of inclement weather).

Outreach Stars in the Park at Blanco 9th, Barton Hills 15th, Meridian Charter the 23rd, Deer Creek the 26th(mobile dome raffle winner). March at SXSW (UT students and their model of the James Webb Telescope) at Auditorium Shores, Earth Hour is the 23rd (8:30-9:30) and we will have an event at city hall (hopefully with their lights off as well). We are also still working on AUTS and an event in Cedar Park with the hockey team and having an event with them. Merchandise should be ready by Friday's meeting!

IDA Steve has been asked to be a co-coordinator for IDA in Texas, then taking over to be the Texas coordinator.

ALCor One certificate to present Friday.

President's report The nominating committee is now set. Reimer Ranch: Construction on the observatory will be starting in about another month, and equipment will be purchased shortly thereafter. They would like to have some people come out to see the place and give some feedback. Information will be sent around shortly.

New business: none

Agenda for GA meeting 2/8/13:
1 award presentation, nominating committee info

Next EC meeting will be 3/4/13

Meeting adjourned at 8:54 pm.

Equipment Update

By Darin Koch

I've been communicating with a member in the club regarding under-the-table lights to illuminate the observatory walk path. He's made 3 already for the tables nearest to the walk path, each with separate dimmers. I'm not sure when they will be installed but cannot wait to see what they'll look like at night. They are to aid the guests in finding the walk path to the observatory at night without light trespass for observers. This is really what we've been wanting all along for some time.

Welcome New Members

Ronald Houdyshell
Lynn Hunton
Brian Lippincott
Ceryl Riley
Michael Ruiz
Eric Swanson
Bradley Walter

Inside this Issue

General Assembly Minutes

By Lauren Rogers

8 February 2013

The meeting was called to order at 7:45 p.m. by President Joyce Lynch. A quorum was present. There were 42 individuals in attendance.

The following were introduced as new members, returning members and visitors: Tom and Kathy, Steve Hill, Sarah, Tara Heine.

Motion to approve minutes was made by Mike Krzywonski, seconded by Mark Lyon.

Officer and Chair Reports

Treasurer We have roughly $32,000. Anyone wanting to join can see Mark after the meeting.

Member services We will have another dam star parting coming up and more practical astronomy meetings coming up. If you have any topics you'd like to know more about for the practical astronomy meetings, let Tim know. Next month is March, and we are planning to have a Messier marathon. We will have it at the private star party on the 9th, and we will have a backup date for the 16th as well.

Communications The new Facebook group is going well. It is not meant to replace the Yahoo! group, but it will help us to reach a wider group of people, so thanks to Tara for helping to get this going.

Equipment No report

Outreach February- 9th at Blanco State Park (rain or shine), Barton Hills the 15th, Meridian Charter the 23rd, Deer Creek 26th. March- 2nd COE public party, 3rd at Wild Basin. 8-10th at SXSW with UT, March 23rd is Earth Hour, and we will be working with the planetarium people and Steve Bosbach (our IDA representative) on that event.

ALCor Alan Carruth earned his binocular Messier certificate.

IDA Steve is presenting tonight, and will speak later.

New business Loaner scope program- Mark Lyon made a motion to buy two additional scopes (up to $1200 each) to add to our loaner program. Ron Carman seconded the motion. Motion passed.

Announcements

A form will be on the website in about another week or so regarding our new merchandise. We will place orders biannually. Prices may vary some based on order numbers.

The nominating committee (Jim Linn, Ross Clark, and Alan Carruth) will be collecting information on those interested in running for office. The slate must be set by the March meeting, and the election will be at the April meeting.

CTSP is the April 5-7 event at COE. We will be rededicating the Ealing telescope as the Larry Forrest telescope. We will also be dedicating a new observatory/ telescopes donated by member Fred Ruof.

Presentation Steve Bosbach, IDA representative

There being no further business, the meeting was adjourned at 9:15 p.m.

Steve Bosbach, Texas IDA Co-coordinator, during his presentation
Photo credit: Erika Rix

Member Services

By Tim Brown

Practical Astronomy Session Friday, March 8th at 6:30 PM

How to Prepare an Observing Plan

Presented by Phil Schmidt

Phil, a University Distinguished Teaching Professor, holder of the Astronomical League's Master Outreach Award and a driver in the club's outreach programs will lead us through a systematic approach to planning our evenings under the stars.

With an emphasis on how to access and use online resources and planetarium software, Phil will discuss:

- Prediction of weather and observing conditions
- Moon phases
- Satellite schedules
- Observing the planets and deep sky objects
- Special events such as comets and meteor showers
- Special considerations for planning star parties

Phil's talk will be tailored to relative newcomers but he encourages comments from more experienced observers. Join us and learn from a great teacher how to get more from your time under the stars.

This is another Practical Astronomy Session that you won't want to miss.

When 6:30 PM Friday, March 8th
Where UT Campus ETC 2.136 (Engineering Teaching Center)

Contact Tim Brown at tbrown@timobrown.com or at 577-8340 if you have any questions.

Jim Spigelmire (r.) and Mike Krzywonski (l.) presenting the February Practical Astronomy session on how to choose and purchase a telescope to suit your needs. Photo credit: Erika Rix

IDA Texas Report

By Steve Bosbach, Texas IDA Co-coordinator

On the Texas IDA front, Bill Wren, of McDonald Observatory recently spoke with Brent Leisure, director of Texas Parks and Wildlife, as well as a number of key heads of departments on the importance of state parks compliance with good lighting practice. His message was well received and it's now official that ALL Texas state parks intend to upgrade lighting to best practice levels. This means we have our work cut out for us, as they are depending on the amateur community to point them in the right direction. Lighting assessments will eventually need to be done on all parks in the state, which means a statewide coordination of this project. I will be contacting other clubs around the state to drum up support for this effort.

Locally, we have completed lighting assessments on seven parks so far; including Pedernales Falls, McKinney Falls, Enchanted Rock, Colorado Bend, Lost Maples, Lockhart and Garner. Erika and I will be doing Inks Lake Mar. 1st. Coming up in the near term will be assessments at Longhorn Caverns, Blanco, Bastrop, Buescher, LBJ Ranch, Old Tunnel, South Llano River, Ft. McKavett and Ft. Boggy. If any others of you would like to be trained to do lighting assessments in the parks, please get in touch with me at my email address.

As many of you already know, Death Valley Nat'l. Park has just been designated IDA's newest and largest Dark Sky Park. Death Valley N. P. attained the gold tier level of dark sky park, equivalent to the level at Big Bend N. P. Death Valley IDSP hosts regular astronomy and dark sky awareness events. Coming up is the 2nd annual Mars Fest on March 1-3, 2013. Learn more by visiting http://www.nps.gov/deva/naturescience/lightscape.htm and IDA's page on International Dark Sky Places. www.darksky.org/parks

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Photo of the Month

Congratulations **Phil Schmidt**
...for capturing this beautiful image of the setting sun.

Phil photographed this projection of the Sun using his home-built Sun funnel during our February public star party at the Eagle Eye Observatory.

Capture Location: Eagle Eye Observatory, TX
Exposure: n/a
Camera: iPhone 5
Scope: Orion XT 10g
Other: 25mm eyepiece as a projection lens for the Sun funnel

Past images of the month: http://tinyurl.com/AASImageOfMonth

Astronomical League

By Erika Rix

Please join me in congratulating **Alan Carruth** for earning his binocular Messier certificate.

Alan Carruth with his Binocular Messier Certificate
Photo credit: Erika Rix

To earn a binocular Messier certificate, members must observe 50 or more of the 110 Messier objects using binoculars. Relevant information about the observation must be included such as object name, date and time of the observations, sky conditions, binocular size and power and a brief description of the objects observed.

For more information, please visit the AL website at http://tinyurl.com/ALBinoCert

Above: Alan and Jack Estes, ALCor representative for AAS

Left: Alan with Jack Estes and Joyce Lynch, AAS President. Alan is explaining the requirements he needed to meet for the certificate during our February AAS monthly meeting.

Photo credits: Erika Rix

Outreach Events

By Dawn Davies

http://tinyurl.com/AASEvents

We've done a tremendous job kicking off the New Year with our presence in local astronomy events and we're just getting started. Say hello to spring. March, April and May mark some of our busier months with outreach. The second semester of school is in full swing by now and daylight savings time will be upon us shortly. You will start to see more school events, more star parties at libraries and more AAS signature events such as AUTS.

This March we will be taking part in a global event called Earth Hour, on March 23 at Austin City Hall. This function will be the anchor of our spring season happenings and we hope for a large public turnout. The focus will be urban observing and educating guests on the importance of conservation and the impact light pollution has on our night sky.

Throughout the following months you will see announcements go out for events that will take AAS from one end of Austin to the other. If you have yet to make it out to Canyon of the Eagles for a public star party night, spring is the time to do it. We'll start to see the weather warming and hopefully clearer skies. April is a rather beautiful month for the drive out to Burnet due to the blooming of those gorgeous blue bonnets. This year the Burnet Blue Bonnet festival coincides with our April 13 public star party, so why not make a day of it. Just be sure to give yourself ample time for the drive into COE. The blooms make the scenery ideal for photo opportunities and you'll find yourself getting behind if you don't budget enough time to stop and view the sights. The season will culminate on June 15 with our annual Austin Under the Stars at St. Stephen's Episcopal School (back up date June 29).

There has never been a better time to become an outreach volunteer. However, don't solely take my word for it. Read what some of our members have to say about the experience.

Outreach event for the Science Share Night at Deer Creek Elementary
Photo credit: Erika Rix

"The thought of sparking an interest in science, specifically the wonders of the universe, to children makes outreach so great. You know you've been successful when their eyes light up and they become full of questions.

This extends to adults, too. Many people have never looked through a telescope or don't realize how easy it is to get started in this hobby. The excitement they have at their first glance of the Moon or Saturn, the Orion Nebula or a solar prominence is addictive and I want to share that with as many people as I can. People want new experiences and desire to learn. We can offer a venue for that."
- Erika Rix

"Getting out under the stars with folks you've never met is a very rewarding experience! When you have someone who's not really into astronomy look through your telescope for the first time, the results can be astonishing. The WOW effect you get when they see Saturn's rings gives me confidence that sharing my hobby is a fun and worthwhile task! We get to show them planets, star clusters and nebula that not many people on Earth have ever seen!!"
- Bob Van Gulick

I enjoy outreach not only as I get to share something I truly enjoy, but also because I get to help others learn about, experience and understand the wonders of our universe and in so doing gain knowledge and insight myself.
- David Ault

Come out and join us for an evening under the stars, in any

capacity you can volunteer, you won't regret it. For all events please email me directly to RSVP your attendance unless an alternative point of contact is provided.

dawnmunroedavies@gmail.com
512.663.2249

2 March
Public Star Party at COE

6:30 p.m. – 10:30 p.m.
16942 RR 2341, Burnet, Texas 78611

Astronomers with telescopes and binoculars needed as well as observatory operators and welcome table greeters

3 March
Stargazing at Wild Basin

6:30 p.m. – 9:30 p.m.
805 North Capital of Texas Highway, 78746

Astronomers with telescopes and binoculars needed

8,9,10 March
James Webb Space Telescope Star Party at SXSW

9:00 p.m. – 11:59 p.m.
Auditorium Shores between the Long Center and the Palmer Event Center

Astronomers with telescopes needed. Visit the website for more information.
http://tinyurl.com/JamesWebbSXSW
Please Contact: Kelley Knight
kelleyknight@yahoo.com

23 March
Earth Hour at Austin City Hall

6:30 p.m. – 10:30 p.m.
301 W. Second Street Austin, Texas 78701

Astronomers with telescopes and binoculars needed as well welcome table greeters and individuals to talk about the importance of light pollution and its impact on observing.

(Equipment drop off is in the loading dock on the East side of City Hall with parking below the hall for $5. Please bring your own power as our access is limited.)

Outreach event for the Science Share Night at Deer Creek Elementary
Photo credit: Erika Rix

January 2013 Treasurer's Report

by Mark Lyon

Deposits:	
Dues payments	
Checks	$115.00
Paypal	$0.00
Dues payments totals	$115.00
Interest earned-checking	$0.18
Interest earned-CD	$0.25
Interest earned-CD	$1.36
Total interest earned	$1.79
ESP Donation	$215.00
Club insurance refund	$290.00
Donation	$59.00
RASC Handbooks	$25.00
Deposit Totals January 1-31st, 2013	$705.79
Expenses:	
S & T payments	$0.00
Astronomy payments	$0.00
Magazine payments total	$0.00
State sales tax	$19.21
Club insurance	$290.00
Total Other Expense	$309.21
Check Totals January 1-31st, 2013	$309.21
Bank Balances:	
University Federal Credit Union Checking	$21,139.59
University Federal Credit Union C.D.	$5,799.31
University Federal Credit Union C.D.	$5,780.07
University Federal Credit Union Scholarship	$459.43
Total Cash	$33,178.40

Total of 296 AAS members as of January 31st, 2013

Earth Hour

By Dawn Davies

Saturday 23 March 2013
7:00 p.m. – 9:30 p.m.
Austin City Hall
301 West Second Street
Austin, Texas 78701

In 2007 the World Wildlife Fund (WWF) in Australia launched a city wide event in Sydney, a large scale switch off. The concept behind the function was to encourage discussion about climate change. For one hour, at 7:30 p.m. local time, residences and businesses turned off their lights. Five years later Earth Hour has become a global initiative targeting climate change, light pollution issues and a planetary desire to connect for change and the betterment of our pale blue dot.

The first year Earth Hour made it to the states, back in 2008, I recorded the speed of my energy meter and then turned off every light and electrical appliance I could, without ruining my perishables. The slowness of the dial after that first switch off was staggering. However, the event is more than just a cheerleader for conservation. By going dark homes and cities are making a statement that it is not just our energy consumption that is at stake. When cities are darkened in the name of saving watts our skies become the focus of attention.

This year Earth Hour will take place from 8:30 p.m. to 9:30 p.m. local time in over 7,000 cities spread across more than 150 countries.

A set of images was recently released onto the Internet depicting major cities on the planet as they would look under dark sky situations. The results were a night sky that most astronomers only dream of and very few have ever come close to witnessing. Organizations like WWF and the International Dark Sky Association are key players in taking back the night sky.

It is for this reason, primarily, that the Austin Astronomical Society is hosting a special event this year during Earth Hour. We are taking over the steps of city hall to call to attention the need for darker skies and light conservation. Members will be present with telescopes and binoculars offering the public an opportunity to take part in urban observing. We will also be showcasing the award winning documentary, The City Dark. Joining us for the event will be the Austin Planetarium with their mobile dome and the members of the University of Texas at Austin's Astronomy Students Association.

We cannot hope movements such as these to produce immediate results, however, every step forward is a step in the right direction; a step toward darker skies. We hope you will join us.

http://tinyurl.com/AASEarthHour

March 2013 Observing Targets

By Brian Cuthbertson

Welcome to intergalactic skies. A March trip down the RA 10h meridian from Polaris as far south as Antlia at declination -30 never comes near the Milky Way. So except for a few interlopers like our first target, prepare to lose yourself in galaxies. But wherever you dive into deep space, enjoy!

NGC 3242 rating EASY
Planetary nebula in Hydra
RA 10h 24.8m, Dec -18d 38.2' (2000)
Magnitude 7.8, 45x36"

Found by William Herschel in 1785, this large planetary is located in the western part of the sprawling constellation of Hydra, easy to find just 1.8 degrees south of 3.8-magnitude MU Hya. Due to its size and color, it was originally described as the "Ghost of Jupiter" by 19th century observer Admiral W.H. Smyth. Smyth's color description was "pale grayish-white", though most modern observers see it as bluish-green. In modern times, the planetary has also picked up the "Eye Nebula" nickname.

Small scopes show the planetary as a pale bluish softly glowing disk. Scopes 10 inches and larger can pull out a peculiar and interesting eye-like structure: a bright, strongly elliptical inner ring that strikingly resembles the outline of a human eye. The feature measures 26x16" and is oriented SE by NW. The "eye" is enclosed by a fainter outer shell about 40" in diameter.

In the exact center lies the 11.4-magnitude blue dwarf, which can be seen under good conditions with a 6-inch scope. The star has a 60K surface temperature. The nebula's blue-green tint is caused by the strong emission of doubly ionized oxygen at 5007 and 4959 angstroms.

Whether you see the planetary as blue or green may depend on your age. Generally, younger observers see planetaries as blue, while older ones find them greener. This is because, as we age, the eye's lens begins to yellow and acts as a filter, blocking light from the blue end of the spectrum.

NGC 3242 is about 1400 LY distant, definitely among the dozen nearest planetaries.

NGC 3109 rating MEDIUM
Irregular galaxy in Hydra
RA 10h 03, 1m Dec -26d 09.0' (2000)
Magnitude 9.9

NGC 3109 is a small galaxy located in southern Hydra near its border with Antlia. Discovered by John Herschel on March 24, 1835 while in South Africa, it is the dominant member of a small group of dwarf galaxies called the Antlia-Sextans group. Originally thought to be peripheral members of our Local Group, this group is not now considered bound to the Local Group, due to its relative velocity. Instead it may be one of the nearest external galaxy groups beyond the Local Group.

NGC 3109 itself is roughly 4.5 million light-years away, not that far considering that the Andromeda galaxy, our nearest large neighbor is almost half that distance. In deep images, NGC 3109 looks like a spindle-shaped irregular, and in fact has been classified as a Magellanic type irregular. But it may actually be a small spiral system seen nearly edge-on.

Other members of the Antlia-Sextans group include the dwarf galaxies Sextans A, Sextans B, the Antlia Dwarf, and maybe Leo A.

Visually, NGC 3109 is a tough

target because although it is relatively bright, the light is spread out over a large area. Expect to see only a faint spindle of light in large telescopes.

NGC 3067 rating HARD
Galaxy in Leo
RA 09h 58.4m, Dec +32d 22.1' (2000)
Magnitude 12.1

Located 66 million light years away, NGC 3067 is a spiral star burst galaxy that sits in a corner of northern Leo up against the border with Leo Minor. In fact, the closest bright star is 4th magnitude 21 Leo Minor, 3.5 degrees NE.

Visually, NGC 3067 is a small oval shaped object in smaller scopes. In a 6-inch it is just barely visible, with a star-like center. It is visible with direct vision in a 10-inch amateur scope. With a 12-inch you'll see an east-west spindle about 1.5' long and a well-defined 20" bulge.

NGC 3067 is perhaps best known for a hydrogen 21cm radio bridge that appears to connect it to quasar 3C 232, only 2' away, but 9 billion light years distant if we believe its redshift of 0.5303.

Astronomy App Reviews

By James Hall

Star and Planet Finder

Free
Category: Education
Updated: Jan 29, 2013
Version: 6.2
Size: 12.0 MB
Language: English
Seller: Nir Alperovitch

Test Equipment iPad

(Third Generation)

The astronomy app reviewed this month is an iOS app called Star and Planet Finder. It is designed for various versions of the iPhone and iPad. This review was done with the iPad (Third Generation). As with many of my astronomy applications, I found this app when looking for a tool that would show users a quick graphical way to find and observe objects in the night sky. Half the challenge of getting new people into astronomy is getting them over the learning curve of finding and predicting objects in the sky. I've noticed more and more people bringing their smart phone or iPads out to the observatory for just such a purpose. So I'm always on the lookout for new exciting applications like Star and Planet finder to help them out.

The Claims

According to the seller's website, Star & Planet Finder guides you to see stars, planets, constellations and satellites in the sky. Simply choose a planet from the list, and move your device according to the pointer display, the pointer represents the planet.

Information includes:

- 12- and 24-hour ordinary clock Augmented Reality display - guides you to the chosen star
- Compass, GPS, accelerometer, camera and clock aware
- All 7 planets including Sun and Moon
- All 88 constellations for $0.99
- The 300 brightest stars for $0.99
- The 150 Brightest Satellites for $0.99
- Full Augmented Reality display
- Automatic time sync
- Moon phase display
- Planets information: description, mass, diameter, range
- Constellations Maps
- Satellite tracking map

My Experience

I was able to load the application without any difficulty. The first thing that caught my eye was the augmented reality screen that takes up 1/3 of the screen. It quickly becomes obvious that they expect you to pick a category from the list: planet, constellation, star, or satellite and then find the target using the augmented reality screen. As far as augmented reality goes, I love the concept of being able to use the iPad or iPhone camera to augment the targeting and tracking of moons and stars. I was a bit skeptical on the camera's ability to pick out such faint objects, so I took the app to Eagle Eye Observatory at Canyon of the Eagles for testing during an outreach program.

The Good

Easy installation and setup, plus the GPS detected my location without any difficulties. Anytime an astronomy app is free, I like to put that in the "good" column, although I have to admit that I'm a sucker for the in-app charges - especially when first impressions indicate it might be decent tool for astronomy outreach. I went ahead and paid the additional 99 cents per category to expand the constellations, satellites, and stars. The ability to choose from a large database of objects was nice. It is clearly setup for a beginner and only shows the most common sky objects. During the outreach programs, most people liked using it to find the ISS and Hubble. I was impressed at how quickly the children could use it compared to their parents. It was also nice to see a quick summary of your target listed as a picture, sky chart or descriptive paragraph below the augmented reality screen. When picking your targets, you can filter for viewable objects based on your location. My favorite piece had to be the ability to pick a planet or satellite and use the augmented reality screen to list the star names next to it so I could easily find them in the sky.

The Bad

Without paying at least 99 cents, you won't be able to find anything in the app other than the main planets. The augmented reality works, but isn't perfect. I don't blame it on the software, I don't think the camera on most phones and tables are sensitive enough to pick out stars in the sky as a comparison background, but I like the direction they are heading with these types of applications. The sharing feature included in the app does little more that post an advertisement on your face book wall. It would have been nice if that would automatically post what you targeted or found as default verbiage for the posting. The search field could be improved as well. For example, if you search for "Hubble", you won't get any matches. But if you search for "HST" it will find Hubble and target it. It also says it has a moon phase display, but I wasn't able to find that feature. There are so many other better moon applications that you wouldn't really use this app for the Moon anyway.

The Bottom line

This is a good purchase for anyone looking for a free or cheap way to interest others in astronomy. You have to take into consideration the issues listed above, but otherwise, I would recommend this application as an extra in your toolkit for outreach programs.

Guest Spotlight from the Astronomical Community

Meet Steve Coe, author/technical writer and astronomical sketcher

My Life Enjoying the Night Sky
By Steve Coe

I really don't remember a time when I did not know at least a few of the brighter stars and constellations. While going fishing with my grandfather early in the morning, he would point out a few bright lights in the night sky and see if I remembered them the next time we were fishing. This simple task started my down the path of knowledge about the nighttime light show that is always overhead.

After a hitch in the U.S. Navy as a submarine sailor, I decided to become a professional astronomer in 1976. So, I enrolled at Arizona State University and quickly found that I had made a mistake. I thought that I was going to get a chance to LOOK through those giant telescopes; that virtually never happens with modern telescopes. I also found that most of my astronomy professors are mathematicians first and astronomers second.

Fortunately, I found a job that paid well and had time off to go out with the telescope. For 25 years I taught electronics at DeVry Institute of Technology in Phoenix, Arizona, USA. I am also a long time member of the Saguaro Astronomy Club (SAC), one of the most active groups of observers in the world. With those two bits of good fortune in place, I started observing the sky with a wide variety of telescopes.

Steve with Tom and Jeannie Clark's 36-inch f/5 telescope at McDonald Observatory - Photo credit: Steve Coe

As much as I enjoy a small get together under dark skies, I also like a big star party. For many years I have traveled to the Riverside Telescope Maker's Conference and the Texas Star Party. It is always fun to see old friends and make new ones. My "Lone Star Gazer" award from the 2005 TSP is mounted on my wall right this minute.

Right now I am living full time in my motor home and it has been lots of fun. I have traveled to the Oregon Star Party three times and enjoyed giving a presentation there twice. I also had fun at the Golden State Star Party in California and the Table Mountain Star Party in Washington. After many years of sleeping in the back of a truck, the 30 foot Winnebago is the Taj Mahal—a real bed and bathroom!

Being a professor at DeVry for many years taught me to write technically, you have to be precise to put together a quiz or a lab project. With that background I started writing about what I saw at the eyepiece and the telescopes I was using. I am proud to say that I am the largest contributor to the Deep Sky Observer's Guide from Kepple and Sanner. I have also written three books and about 150 magazine articles. The website "Cloudy Nights dot com" contains a set of articles that are monthly reviews of what I have observed in a wide variety of binoculars and telescopes. Right now I am just starting a project to put all my observations and drawings together with some club member's photographs and have it available on the Internet. We have not even created a name yet, so "watch this space".

I have had lots of fun observing both on my own and with the members of SAC over the past 35 years or so. Getting out under clear desert skies and enjoying the view has been a source of joy for me. Some days I feel like I am just getting started.

The RV, ready for the Messier Marathon, about 100 miles west of Phoenix. - Photo credit: Steve Coe

Science Share Night Outreach at Deer Creek Elementary

By John Huntsberger, Kerry Johnson, Larry Martin and Erika Rix

Erika Rix, Larry Martin and I had a great time with all the kids and parents. Erika and I set up our 'scopes outside under the clouds while Larry did his Moon Phases presentation inside in a classroom where all the pizza and drinks were.

All went very well until people came outside to look through our 'scopes and the sky were covered with clouds. Erika and I showed the 'scopes to all, talked about binocular viewing, and showed how SkySafari works. Rather peaceful and fun.

Then, all-of-a-sudden the sky cleared showing Jupiter at the zenith. Oh, my, goodness, both Erika and I had to lie on our backs to look through our finders to get Jupiter centered in our 'scopes. Cameras flashed, people began to line up, and we were treated to all the "Wows" and "Is that Jupiter" comments for what seemed like all night. It was wonderful!

- *John Huntsberger*

Observing Jupiter through a 102mm refractor
Photo credit: Erika Rix

I also attended the Deer Creek Elementary Science Night, but couldn't man my telescope because I was inside showing Moon rocks; meteor samples; and lunar and Mars simulated soil I have on loan from NASA.

I was sharing a table with Dr. Tim Urban from the UT Center for Space Research and from our experience we had a highly successful event. I didn't stop talking about the Moon rocks and soil samples the entire time. Sometimes the line for viewing the rocks was 3 families deep and they came with some very good questions.

There is a lot of interest in continuing and upgrading the space program from the people I talked to. I even got to talk to a retired engineer who was in charge of the lunar lander simulator for the Apollo program--very cool.

I was able to see John and Erika out the window behind my display and was impressed with their setups, so I know everyone who went out there got a very good showing.

I think AAS was very well represented last night, and we had a great time doing it.

- *Kerry Johnson*

Larry Martin's lunar phases presentation
Photo credit: Erika Rix

Last Tuesday, 26th of February, I attended the Science Share Night at Deer Creek Elementary along with two other Austin Astronomical Society members, Larry Martin and John Huntsberger. We volunteered to help out with this event by putting together a lunar phase presentation and providing telescopes and binoculars for viewing. I received word from our contact, Sandy Smith, that there were over 340 attendees at the event! Sandy was awesome with communication and made sure everything we needed was provided for.

As a child, we had science fairs where the students worked on various projects, proudly presenting them at the events. The Science Share Night, organized by the school's PTA, took on a whole new level of sharing science. The Austin Mobile Planetarium was

there and everywhere you looked, fun hands-on science activities were taking place. I would have loved to have taken part of them last night myself – just think of the great time the kids were having!

After the three of us set up, Larry remained inside for his presentation where the attendees learned the phases of the Moon using a flashlight and Styrofoam Moon and Earth. Larry put together a slideshow to play in the background of our images and sketches. We had a laminated lunar atlas set up with a few sketches next to it so that everyone could see lunar terrain and compare the sketches, which show the eyepiece view, to the atlas.

Outside, John and I showed attendees how telescopes and binoculars worked while waiting for the skies to darken and the clouds to part. One child learned how to use the binoculars by locating her brother across the playground. The refractor was set up to show the attendees a chimney top and were explained why the view was upside down. I used this time to show children how to use a planisphere and John was across the sidewalk doing the same with the SkySafari app on his iPad.

The Moon wasn't due to rise until after 6:37 pm, but we were able to eventually share views of Jupiter. The attendees witnessed John and me both laying down on our backs and doing contortionists antics during an impromptu "finding Jupiter through our finder scopes/Telrads" moment. I should explain that Jupiter was at zenith! Although our Moon didn't make an appearance, Jupiter's moons put on a nice show.

Kudos to Deer Creek Elementary for providing such an amazing fun learning experience for the students and their families. And thank you for making us feel very welcomed and allowing us to be a part of it.

- *Erika Rix*

(top) Austin Mobile Planetarium

(upper middle) Erika Rix introducing binoculars to an enthusiastic attendee

(lower middle) John Huntsberger showing how to use SkySafari on his iPad

(bottom) Auditorium full of fun science projects and booths

Photo credits: Erika Rix

Family Star Night Outreach at Barton Hills Elementary

By Erika Rix

Photo credit: Erika Rix

Outreach events are always a fun time, especially when they involve youngsters. It turned out to be a cloudy night for the Family Star Night event at the Barton Hills Elementary school. There were plenty of indoor activities for the guests to enjoy such as the Austin Mobile Planetarium, a display by the International Dark Sky Association and astronomical talks. The weather didn't prevent a couple of us from setting up our telescopes outside for everyone to enjoy, however. Joyce and Jim Lynch showed up with a telescope, and I brought a 102mm refractor along with a couple of binoculars and an assortment of other visual aids such as books, a planisphere, Rükl Atlas, and sketches. Our contact for this outreach event, Becky, was terrific and made us feel very welcomed. I was certainly thankful for the warm cup of hot chocolate and munchies she provided as well as her hospitality.

The students and their families started arriving between 6-6:30PM and made their way inside to enjoy the mobile planetarium and other indoor activities. Once they made their way outside, there were just a few brief glances at the moon before it became nearly 100% overcast. The children insisted on looking through the eyepiece with excitement, nevertheless. It turns out that bringing the Rükl Atlas was a good decision as a group of children and their parents gathered around me and my telescope as I opened up the atlas and explained how it's used for identifying features on the Moon. There were many questions that followed which lead to discussions on maria, dorsa, what craters are and how they were formed, domes, rimae, lunar phases and also sketching the Moon.

The binoculars were a hit and many of the kids tried their hand at looking at houses and trees further away and were given instruction on focusing. They were explained how a refractor works and how there are specialized filters and telescopes that allow us to even observe the Sun. The students were full of questions about asteroids, orbits, the Milky Way, our solar system and gravity.

One of the highlights of my night was showing an eager young girl how to use my planisphere. She was able to hold it over her head and tell me where various constellations would be if the skies were clear. After showing her just once how to use it, I fabricated a date and time and she successfully rotated the overlay to show the constellations and their locations. My hopes are that she'll become a budding young astronomer and spend many hours with her father enjoying the night skies. It truly warms my heart during those special moments with the children and their parents.

Thank you Barton Hills Elementary for providing such a wonderful experience for all involved!

Jim and Joyce Lynch - Photo credit: Erika Rix

The Myth of the Milky Way

By Steve Bosbach, Texas IDA

This story comes from a comment at a star party at Allen Elementary a while back. An older woman that mentioned she had lived in Austin all her life asked about the Milky Way. She had heard that it could be seen in some places, but in all her years, she had never seen it herself and had decided it was a myth. The comment almost brought me to tears. How could this happen? How could someone's understanding become so distorted that they relegated a basic reality to the realm of fantasy and myth?

I realized there are probably many people, regardless of their background or level of education, that might never have seen a dark night sky. The reality of light pollution has become the basis of their experience instead of the reality of a star studded sky. If they grew up in a light polluted metro area and always arrive under the lights of a parking lot or urban residential area, they would never see and experience the Milky Way. Add enough of these experiences and the stories one hears about the night sky being full of splendor begin to take on the color of cynicism. So the thought would go, "oh, sure, maybe in the past some time people were able to see the Milky Way, but that really doesn't happen any more". Maybe it was all a myth.

I know this may seem trite, but our outreach program is important. Even when observing from light polluted inner city locations, we have the opportunity to dispel the myths of those with limited experience under the sky and leave them with a curiosity for it's wonders. Knowing something is real, they might arrange to seek it out and experience it for themselves. Once an appreciation for the night sky takes hold, now we have an ally in the effort to limit the spread of light pollution.

Lady Bird Johnson had a similar project in mind with wildflowers. Now we know how beautiful it can be in the spring, even if we don't live in prime natural habitat for wildflowers. The night sky from the city is a flower withering on the vine. To significantly slow the growth of light pollution, we need people that care about the night sky. So bring out those scopes and your knowledge, and help build the foundation for appreciating the beauty of the night sky.

Providing outreach during Austin Under the Skies 2012 - Photo credit: Erika Rix

The Fort Worth Gazette (Dates of publication: 1891-1898)

Transposed by Alan Carruth

FORT WORTH TEXAS
THURSDAY NOVEMBER 19, 1891

THE PLANET MARS

Astronomers are generally agreed that the two moons of Mars came to that planet within a few years past and this is a very strong argument in favor of the electrical theory. The nebular theory holds that the earth was a molten mass and when its crust had formed its cooling interior shrank away from this outer crust which finally broke it and coming together formed our moon. This idea contains the gist of the whole nebular theory of creation.

The electrical theory holds that bodies of matter are growing in all parts of chaotic outer space by accumulations and condensations of electric ether now, as has been the case in all the past, and that these bodies come to our solar system as comets, occasionally one of them being caught by the magnetic influences of our solar system, becoming a planet, a moon or an asteroid. There are about three hundred of these small planets moving around the sun in orbits between Mars and Jupiter, and our astronomers believe that the two moons of Mars are identical with these small planets called asteroids, and that they came from the asteroidal belt within ten years past.

The moons of Mars are very small, said to be not more than fifty miles in diameter, and are not easily seen except when Mars is at perihelion - nearest point to the sun - and the earth at the same time between Mars and the sun, and this occurs only once in about nine years. These moons were discovered at the last of these conjunctions, and therefore came to Mars between the last two such conjunctions.

Unquestionably Mars received her moons from outer space and not by the breaking up of an outer crust formed by cooling and this is not only evidence, it is positive proof, that the earth received its moon in the same manner. The indisputable facts connected with the moons of Mars destroys the nebular theory, for if these moons came to that planet from outer space then it cannot be successfully denied that the earth came to the sun in the same manner; and in these two little moons of our near neighbor we have incontrovertible evidence in favor of the theory that the sun, earth, planets and moons slowly grow in outer space and are caught by our solar system as it moves constantly into new space never before occupied by it.

Another evidence is that Jupiter in recent years caught a comet and held it, revolving around it like one of its moons, for six months, and finally, when it did break away, changing its orbit so that it revolves around the sun in about seven years, instead of twenty seven as before. This has occurred twice with the same comet and it will, probably, become the fifth moon of Jupiter.

One of the moons of Mars moves around that planet in less time than it revolves for Mars to revolve on its axis. If this was the case with our moon it would rise in the west and set in the east. This appears to refute the theory that the elements surrounding the sun, earth, and planets, revolving with them, cause the planets and moons to revolve around their primaries, for these elements move slower than the revolution of the bodies, while this moon of Mars' moves faster than the planet revolves, causing that moon to rise in the west and set in the east, relative to that planet.

But when this moon came to Mars it necessarily moved with the velocity of a comet and its momentum would, for a time, carry it around its primary with great speed. Astronomers say that our moon is losing time, decreasing in velocity, and they fairly prove this by the dates of ancient eclipses, and no doubt this rapidly moving moon of Mars will lose velocity till it is in accord with the elements that revolve around that planet.

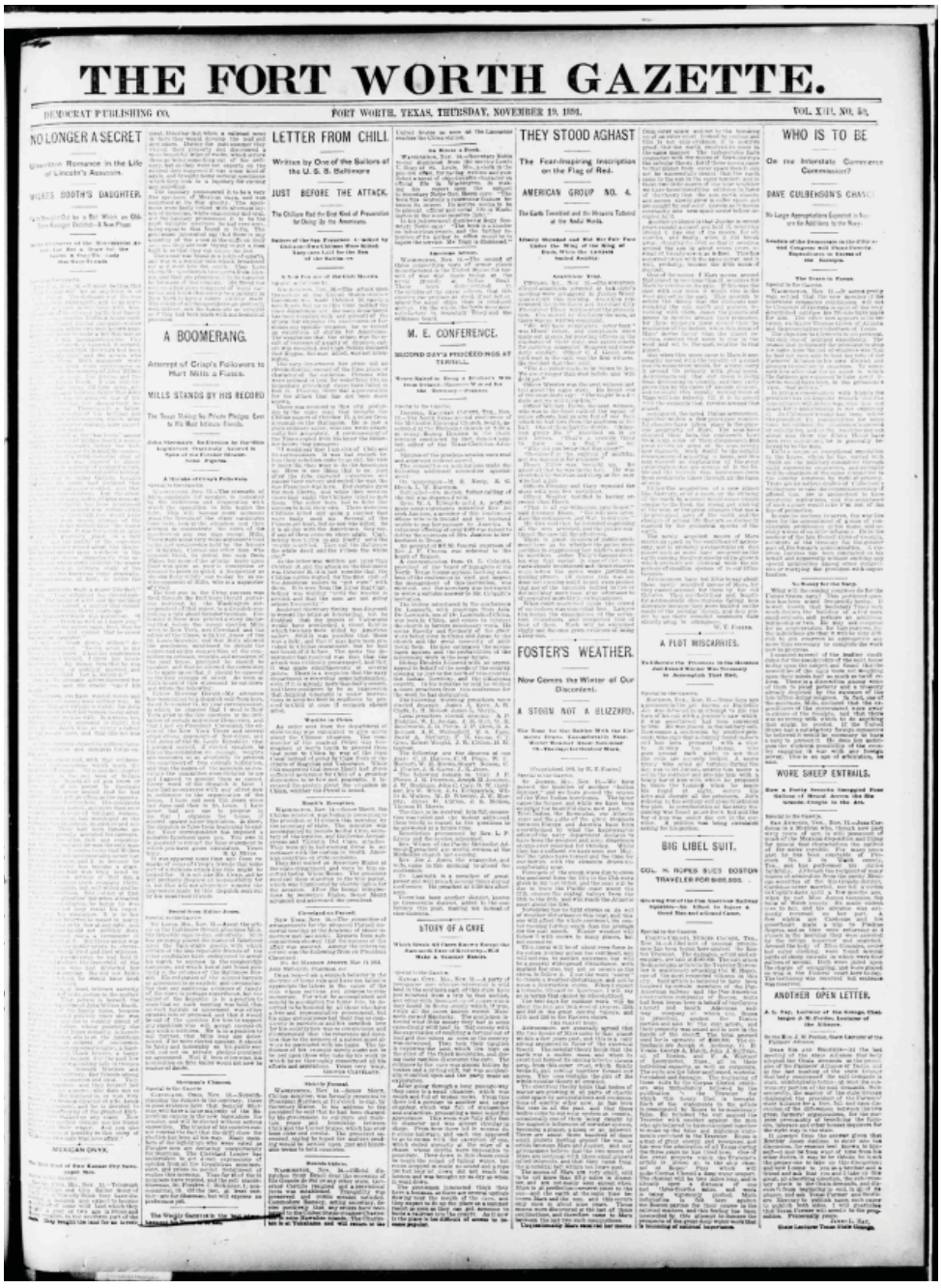
Schiaparel, the noted Italian astronomer, says that within a few years past wonderful changes have taken place in the physical geography of Mars. The seas have changed their beds, the continents have broken up, some of them disappeared, and great rivers, or arms of the seas, occupy new channels. Such would be the natural consequence of acquiring a moon, and this may suggest an explanation of the great catastrophes that are spoken of in the Bible and the legends that have come down from prehistoric times through all the races of men.

Either the acquisition of a new planet like Mercury, or of a moon, or the striking of the earth by a comet would cause events similar to the flood, the rising and sinking of the seas, or the great changes that mark the geological ages of the earth and the changes of animal life that are so distinctly marked by the geological epochs of the earth.

The newly acquired moons of Mars marks an epoch in the evolutions of astronomy, and is probably a catastrophe on that planet such as must have occurred on the earth causing the great epochs of its growth which probably are identical with the six periods of creation spoken of in our Bible Genesis.

Astronomers have but little to say about these newly acquired moons of Mars, for they cannot account for them by the old theories. They see their long and beautiful astronomical dissertations falling into disrepute because they were builded on the sands of the nebular theory, and they prefer to see their rounded sentences fade silently away to nothingness.

\- W T Foster



THE FORT WORTH GAZETTE.

DEMOCRAT PUBLISHING CO. FORT WORTH, TEXAS, THURSDAY, NOVEMBER 19, 1891. VOL. XIII, NO. 50.

NO LONGER A SECRET

Unwritten Romance in the Life of Lincoln's Assassin.

WILKES BOOTH'S DAUGHTER.

LETTER FROM CHILI.

Written by One of the Sailors of the U. S. S. Baltimore

JUST BEFORE THE ATTACK.

The Chilians Had the Best Kind of Preparation for Doing Up the Americans.

A BOOMERANG.

Attempt of Crisp's Followers to Hurt Mills a Fiasco.

MILLS STANDS BY HIS RECORD

M. E. CONFERENCE.

SECOND DAY'S PROCEEDINGS AT TERRELL.

THEY STOOD AGHAST

The Fear-Inspiring Inscription on the Flag of Red.

AMERICAN GROUP NO. 4.

The Earth Trembled and the Heavens Tottered at the Awful Words.

FOSTER'S WEATHER.

Now Comes the Winter of Our Discontent.

A STORM NOT A BLIZZARD.

A PLOT MISCARRIES.

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WHO IS TO BE

On the Interstate Commerce Commission?

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Deadline is the 25th of each month.

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- "How to" articles: ATM, observing/imaging/sketching
- New gear/reviews
- Images and sketches
- Star party articles and photos
- Observation reports
- Astro-related classifieds
- News that you'd like to share
- Comics (must follow by copyrights if not your own material)
- Astro-related science projects

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