



The Meridian

The newsletter of the
Quad Cities Astronomical
Society

January 2012

Secretary's Notes

Dale Hendricks

Members in attendance:

Ken Boquist	Dana Taylor	Brian Haysbrook	Karl Adlon	Jim Rutenbeck
Steve VanHefte	Craig Cox	Cecil Ward	Bruce Brooker	Robert Mitchell
Dale Hendricks	Jeff Struve	Gary Charnoski	Tom Bullock	John Baker

Web site discussion - access by paid up members as well as combination lock changes. We should consider changing combinations every March - Dana led the discussion.

Treasurer's report: Craig reported a total of \$2,520.01. Craig also mentioned that we need 2-3 step metal ladders to be safe when opening and closing the observatory roof. They are about \$45.00 each.

Note that on Saturday, March 3, Mars is at opposition and that Venus, Jupiter, Saturn, the Moon and possibly Mercury will be visible in the evening. Seems like a good opportunity to do something in the Cities.

Mars Oppositions:

Mars will be at a close approach in March. I found the following info on the internet and it may be a bit basic for many of you but for those of us not quite up to speed on some of the orbital mechanics I offer it for general info:

Mars will come into opposition on March 3, 2012 in the constellation Leo. Two days later, on March 5, 2012, the planet will have its closest approach to Earth during this apparition: 100.78 million km (0.6737 AU). This is close to the least close, or largest value, as Mars will be considerably close to the aphelion of its orbit, which it will have passed just on February 15, 2012. Opposition occurs close to Northern Summer/Southern Winter Solstice on Mars, which takes place on March 30, 2012, so that Earth will be at high northern declination from Mars, and the Martian North Pole will be in good view from Earth.

As usual, this opposition will provide another opportunity to send spacecraft to Mars. NASA is sending its Mars Lander-Rover mission, Mars Science Laboratory (MSL, also named Curiosity), which was successfully launched on November 26, 2011, is currently in interplanetary cruise and scheduled for arrival at Mars on August 6, 2012. The Russian Space Agency's Phobos-Grunt mission was also launched but failed to reach low Earth orbit and has since plummeted to earth 15 January.

Good note from Karl Adlon re Mars - (came after our Monday night meeting -)

March 3 - **Mars at opposition - apparent angular diameter: 14"**

Sunset: 5:57

6:20 - Mercury is ~12 degrees up - possibly visible in a scope

About 6:30 - Venus & Jupiter in the West

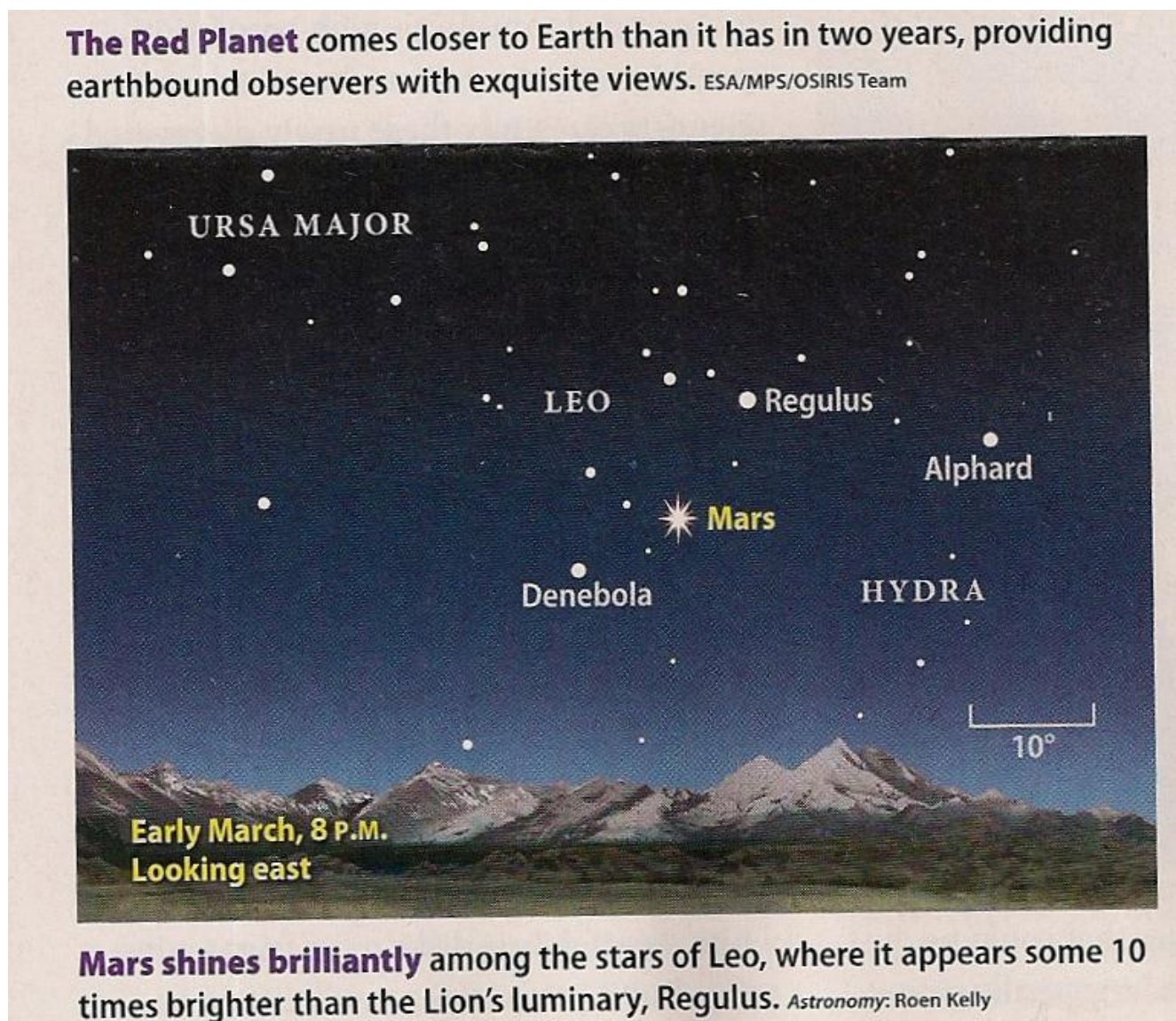
About 6:45 - Mars in the East

About 10:20 - Moon rises

About 10:30 - Saturn ~15 degrees up in the East - North of the Moon

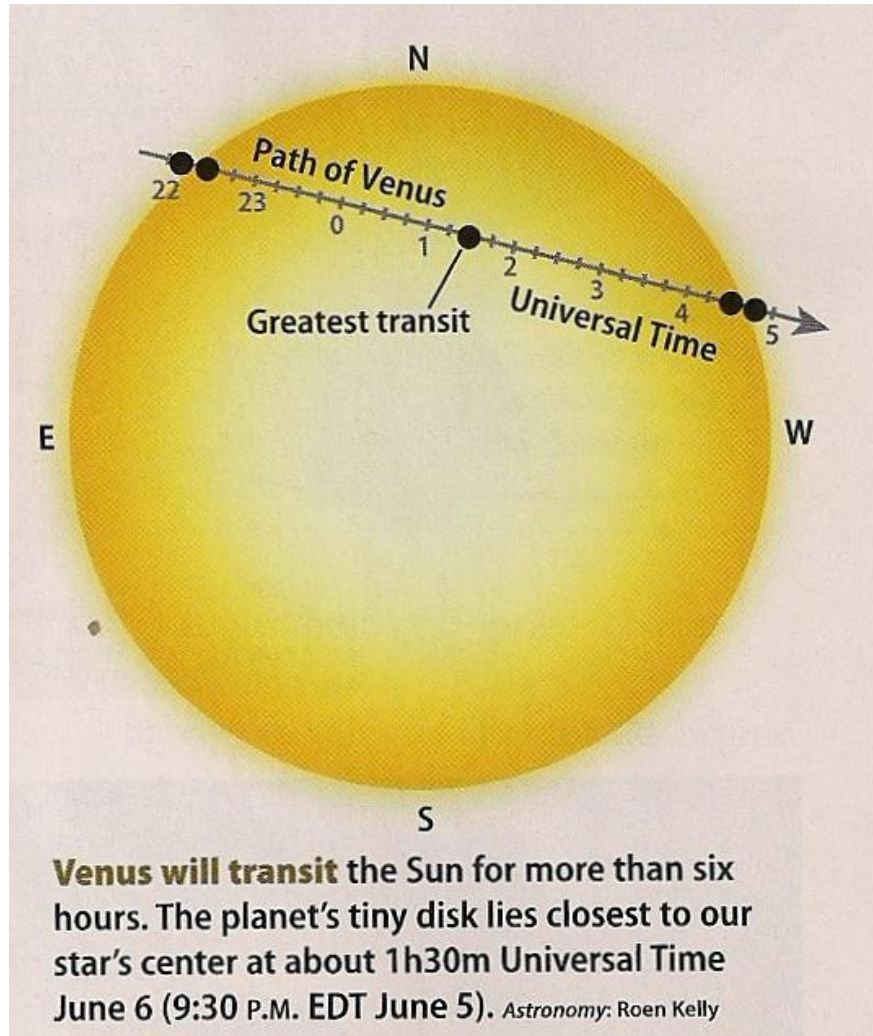
March 11 - **Daylight Savings begins**

We all take Astronomy Magazine so you have no doubt read this article on Mars and its Opposition in March but I wanted to place this in our notes for reference -



Venus Transit:

The focus of our meeting was on the transit of Venus June 5. At the end of these notes I have attached a copy of the document that Karl Adlon developed and distributed to the members in attendance. It contains a plan and checklist of events and activities leading up to the transit. Thanks for the work on this document and all your work, Karl.



Given that the transit will be minimal given our location and the time of the transit (figure above) there was much discussion about how best to observe and cover this event. SAU has Wi-Fi which could be used to transmit live information back to outlets. We also discussed including the local media early in the planning process to keep them in the loop and hopefully providing "countdown" information during their broadcasts. Karl Adlon indicated we could have internet access to a site that covers the transit event.

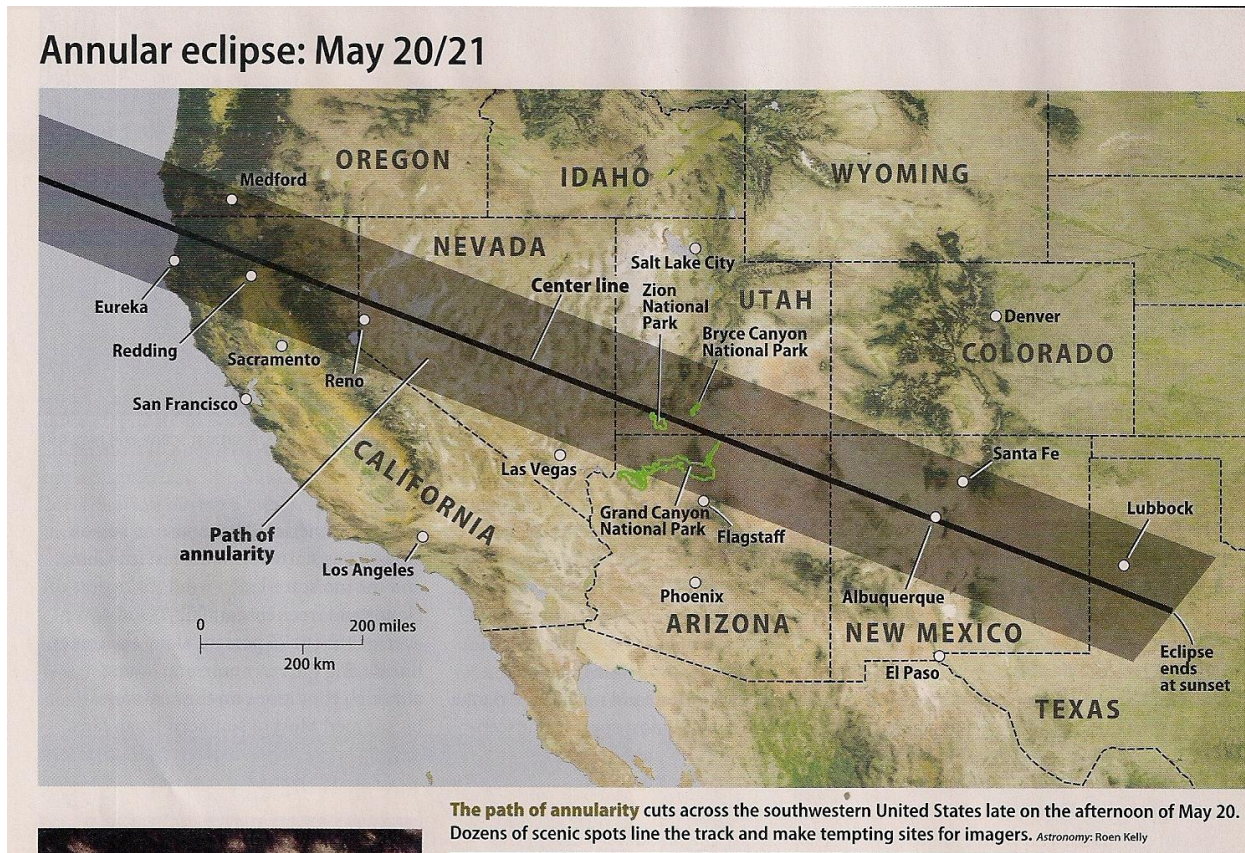
Jeff Struve has Venus Transit software - keep us updated, Jeff, and thanks.

Notes:

- We should have QCAS brochures available if asked
- I don't have all the answers - I don't even have all the questions! - Karl
- Please provide input and comments to Karl Adlon at kmja79@yahoo.com

Annular Solar Eclipse:

We will be on the fringe of the viewing path and here is what it looks like across the US. The eclipse ends in New Mexico and it will be below the horizon for us.

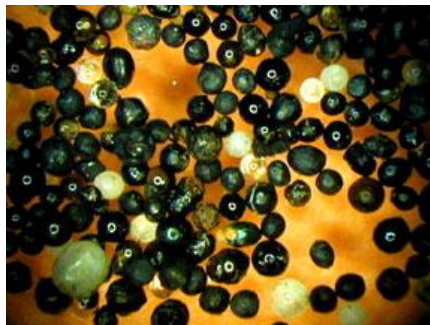


Frost Bite Star Party - FEB 11:

We need to check our schedules and attend if possible. The event starts at 5:00pm (1700 for us military guys) at the Menke Observatory at Wapsi.

Micrometeorite tutorial:

Bruce Brooker provided a great tutorial on hunting micrometeorites. All I can say is that this took far more patience and scientific diligence that most of us do not possess. Providing a real and virtual view of these particles and an explanation of why they were micrometeorites was fascinating and revealing. I found this photo on the internet, Bruce, and these particles do strongly resemble what you showed us.



Dining Club Ticket Books - Jim Rutenbeck again mentioned selling Dining Club Ticket Books as a way to raise money. Books sell for \$35.00 with \$10.00 going to the Club and \$25.00 to the group selling the books. Contact Jim if interested. One or two "free" meals will pay for a book - I know, I did. Thanks, Jim.

Upcoming Celestial and Club Events

Mo	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
FEB	29	30 First-Quarter Moon	31 1958 – Explorer 1 launched	1	2	3 5:00, Comet Garradd (2009P1) 0.5° from Star Cluster M92 in Hercules	4 1906 – Clyde Tombaugh born
FEB	5	6	7 Full Moon 14:54: Full Moon (Snow Moon) Mercury at superior conjunction	8 Saturn stationary	9 Venus 0.3° north of Uranus	10	11 Frostbite Star Party @ Menke Observatory/WRECC
FEB	12 5:00, Moon 2.5° S of star Spica	13	14 10:04, 3rd Quarter Moon St. Valentine's Day	15 Mars at aphelion	16 1948- Kuiper discovers Uranus' moon, Miranda	17	18 1930- Clyde Tombaugh discovers Pluto
FEB	19 Neptune in conjunction with the Sun	20 7PM - QCAS Meeting @ Bettendorf Public Library	21 NEW MOON 15:35, New Moon	22 Washington's Birthday	23	24	25 19:00, Moon 3.5° N of Venus QCAS Star Party
FEB	26 19:00, Moon 3.8° N of Jupiter	27 Jupiter 4° south of the Moon	28 19:00, Moon 3.7° S of M45 Pleiades star cluster	29 Leap Year Day 18:22, 1st Quarter Moon	1 First-Quarter Moon	2	3 11:54, Mars at opposition (0.674 AU from Earth) - apparent angular diameter: 14"
☐ Sunset: 5:57		☐ 6:20 - Mercury ~12 degrees up		☐ About 6:30 - Venus & Jupiter in the West		☐ About 6:45 - Mars in East	
☐ About 10:20 - Moon rises		☐ About 10:30 - Saturn ~15 degrees up					
MAR	4	5 March 5, Comet Garradd closest to Earth (1.27 AU)	6	7 1792- John Herschel born	8 Full Moon	9	10 1977- Rings of Uranus discovered
MAR	11 Daylight Savings Begins	12	13 1781- John Herschel discovers Uranus	14 1879- Albert Einstein born	15 Last-Quarter Moon	16 Messier Marathon Possibility	17 St. Patrick's Day; Messier Marathon Possibility
MAR	18	19 7PM - QCAS Meeting @ Bettendorf Public Library	20	21	22 NEW MOON	23 Messier Marathon Possibility	24 Messier Marathon Possibility

Jens-Wendt Observatory – Quad Cities Astronomical Society – Located at Sherman Park in Dixon, Iowa

Monsignor Menke Observatory – St. Ambrose University – Located at Wapsi River Environmental Education Center in Dixon, Iowa

QCAS Contacts

Elected Officers			Volunteers and Committees		
President	Dana Taylor	dana@nelsonstaylor.com	Facilities	Jim Rutenbeck	jrutenbeck@frontier.com
Vice-president	Joe Bannon	mzbannon@aol.com	Web Master	Dana Taylor	dana@nelsonstaylor.com
Secretary	Dale Hendricks	dhusna68@mchsi.com	Outreach	Joe Bannon	mzbannon@aol.com
Treasurer	Craig Cox	admiralcox2000@yahoo.com	Programming	Jim Rutenbeck	jrutenbeck@frontier.com
Director	Karl Adlon	kmja79@yahoo.com			

All other contacts can be sent to the club at P.O. Box 3706, Davenport, IA, 52808.

Members are also reminded that anyone can submit articles for *The Meridian*. Submit articles to Dale Hendricks at dhusna68@mchsi.com.

VENUS TRANSIT OBSERVING PLANS (PRELIMINARY)

Mission: This mission is for the St. Ambrose University (SAU) and the Quad Cities Astronomical Society (QCAS) to partner to provide viewing opportunities for SAU students and the public to observe the June 5, 2012 Transit of Venus in front of the Sun.

What: Venus will pass in front of the Sun and will appear as a dark spot slowly moving across the face of the Sun. Note that sunspots will probably also be present. Those with appropriate filters may also be able to see prominences on the Sun's limb. For more info on the transit see:
<http://www.skyandtelescope.com/observing/highlights/Transit-of-Venus-February-2012-134332798.html>

When: June 5, 2012. Transit begins at 5:10 PM CDT. Begin setting up at 4 PM?
 Transit viewing will end when the sun sets below the local horizon (between 8 & 8:30).

Where: SAU – exact location TBD.

Who: While I believe everyone is interested, people who have indicated they are interested include:

Who	Will bring	Caveats
Dr. Robert Mitchell		
Karl Adlon	Meade LXD75 with TV Genesis 550mm scope, solar filter, webcam, notebook– should almost span sun surface	
John Baker	10" SCT with a 1000 Oaks solar filter.	Unless I am out of town that week.
Craig Cox		
Jeff Struve	I will have my rig there for photoing the event.	
Dana Taylor	I have a Hi-Definition video camera we could probably rig up to a telescope. Would need one of those universal afocal mounting brackets.	

How: We will use whatever telescopes and equipment we bring to show the transit to students and the public and we will support putting some kind of video on the SAU website/AV system.

Open Issues:

#	Status	Issue	Action	Resolution
0	Open	What "view" is best? The focal length of the scope and the size of the detector dictate what view will result.		
1	Open	What needs to be done to put some kind of video on the SAU website/AV system?		
2	Open	What facilities will be available? i.e., restrooms, shade, A/C, water		
3	Open	After supporting SAU, are there enough members to offer observing at a second site?		
4	Open	What do we want to do for publicity?		
5	Open	How do we want to handle Media contact? This could be of interest to TV, radio and print media.		
6	Open	What if it's cloudy or worse?	Could we set up a display somewhere at SAU, maybe a spare classroom? Could SAU or a member show live viewing from somewhere else (i.e., internet)? NASA TV?	
7	Open	While they will probably be supporting Augustana, what shall we communicate to the PAC, if anything?	Probably, no action required since some members participate in both club activities.	

Notes:

- ★ We should have QCAS brochures available if asked.
- ★ Please provide input comments to Adlon at

Greatest Transit = 01:29:36.3 UT J.D. = 2456084.562225

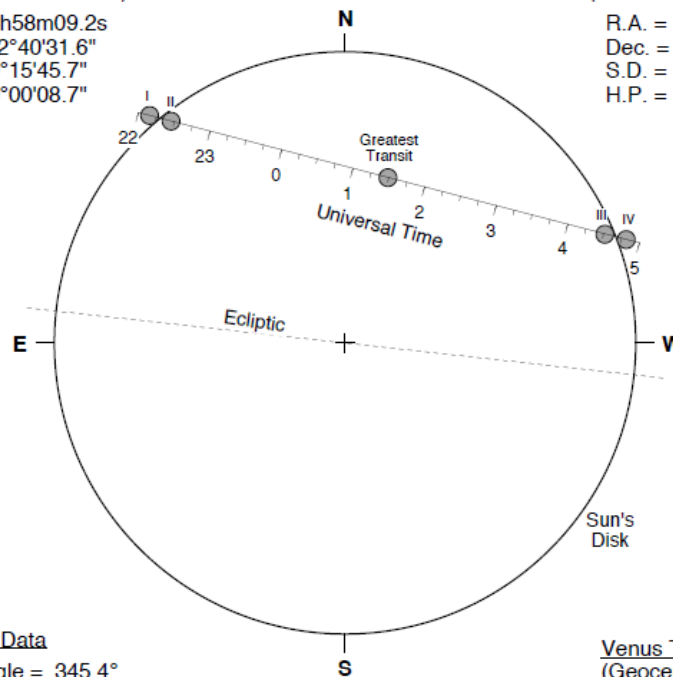
and Karl

Sun at Greatest Transit
(Geocentric Coordinates)

R.A. = 04h58m09.2s
Dec. = +22°40'31.6"
S.D. = 00°15'45.7"
H.P. = 00°00'08.7"

Venus at Greatest Transit
(Geocentric Coordinates)

R.A. = 04h57m58.8s
Dec. = +22°49'25.9"
S.D. = 00°00'28.9"
H.P. = 00°00'30.5"



Geocentric Data

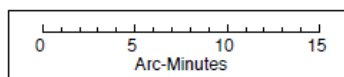
Position Angle = 345.4°
Separation = 554.4"
Duration = 06h40m

Ephemeris Data

Eph. = VSOP87
 $\Delta T = 66.7$ s

Venus Transit Contacts
(Geocentric Coordinates)

I = 22:09:38 UT
II = 22:27:34 UT
Greatest = 01:29:36 UT
III = 04:31:39 UT
IV = 04:49:35 UT



F. Espenak, NASA's GSFC - 2011 Jun
eclipse.gsfc.nasa.gov/OH/transit12.html

kmia79@yahoo.com .