

March 2008

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S*T*A*R

P.O. Box 863

Red Bank, NJ 07701

On the web at:

<http://www.starastronomy.org>

Edited by: Ahmad & Hanna Jrad

The Spectrogram

Newsletter for the Society of Telescopes,
Astronomy and Radio

March's Meeting

The next meeting of S*T*A*R will be on Thursday, March 6. Our program will be "**Remote Control CCD Imaging**" by Dr. Steve Walters. All are welcome.

The meeting will begin promptly at 8:00pm at the King of Kings Lutheran Church, 250 Harmony Road, Middletown. For further details and directions to our meetings. Please contact Rich Gaynor at richg870@aol.com or 732-671-3756.

Editor's Corner

Thanks to Gavin Warnes, Dennis O'Leary, & Randy Walton for contributing to this month's Spectrogram.

Reminder to pay membership dues \$25/individual, \$35/family. Donations are appreciated. Make payments to Paul Nadolny at the February meeting or mail a check payable to S*T*A*R

Astronomy Society Inc to:
S*T*A*R Astronomy Society
P.O. Box 863
Red Bank, NJ 07701

February Issue

Please send articles and contributions by Friday, March 21. Please email to stargaze07@verizon.net.



Total Lunar Eclipse 2008
Photographer: [Hunter Wilson](http://www.hunterwilson.com)

Calendar

Sep 6, 2007 – "**NASA's Deep Impact Mission**" by Elizabeth Warner, University of Maryland

Oct 4, 2007 – "**Webcam Astrophotography**" by Clif Ashcraft

Nov 1, 2007 – "**The Interstellar Medium**" by Dr Hector Arce, American Museum of Natural History

Dec 6, 2007 – "**Adventures at Palomar**" by Alan Midkiff

Jan 3, 2008 - "**NASA's Dawn Mission**" by Dennis O'Leary, S*T*A*R

Feb 7, 2008 - "**Moons of the Solar System**" by David Britz, S*T*A*R

Mar 6, 2008 - "**Remote Control CCD Imaging**" by Steve Walters, S*T*A*R

Apr 5, 2008 – "**Our Changing Sun**" by Ken Legal, S*T*A*R

May 4, 2008 – "**The Near Side Lunar Megabasin**" by Charlie Byrne, S*T*A*R

Jun 1, 2008 – AGM

Announcements:

4/26-27 - NEAF 2008 Northeast Astronomy Forum & Telescope Show.

<http://www.rocklandastronomy.com/neaf.htm>

5/29-6/1 - Cherry Springs Star Party Cherry Springs Park, PA.

<http://www.astrohbg.org/s4/index.php>

5/30-6/1 - AOS Starfest at the Stone Tavern Farm in Delaware Co. NY.

<http://www.aosny.org/Starfest2008.htm>

7/31-8/3 - Stellafane Springfield, VT.

<http://www.stellafane.com>

President's Corner

By Gavin Warnes

One of the nice things about astronomy is that it is a social hobby. In February we had a great get together at John Heidema's house to watch the lunar eclipse. The weather gods were kind to us and all the clouds disappeared to reveal a crystal clear sky. About ten of us stood in John's yard gazing up at the beautiful ruddy moon (in between running inside to warm up and polish off another cannoli). Hopefully everybody got to see it. Thanks again to John and Karen for their hospitality.

I have high hopes for the March meeting. Steve Walters has been working away to get his telescope ready so that we can play with it via the Internet. Steve and I had a dry run a few nights ago and had fun taking quick snap shots of bunch of Messier objects and the Horsehead nebula. I've also figured out how to get access to the Internet from our meeting room so we can have future 'web assisted' programs.

The Messier Marathon is nearly here! The ideal dates are March 3rd-8th. Doug has posted information in the Events & Observing Plans section of the discussion board at www.starastronomy.org. It's too early to call the weather at this stage so please check there daily if you are interested in a club outing to the Pine Barrens. The last time the weather co-operated a crowd of us gathered at Coyle Field and made a night of it. If you are new to this hobby this is great chance to bag a lot of Messier objects in one foul swoop – keep your fingers crossed!

Clear Skies!

Gavin

March Meeting Minutes

By Dennis O'Leary

The meeting was called to order at 8:00 by Gavin Warnes. Four newcomers came to the meeting, Chris, Elliott, Ben and Andrew. Thanks for coming down and we hope you had an enjoyable evening and come to some of the upcoming events mentioned in our discussion board.

After welcoming them, Gavin announced a change in the programs for the upcoming meetings. At the March meeting we will be remotely controlling Steve Walter's telescope located at his new home in Pennsylvania. Hopefully, we will be able to assess the telescope and do remote imaging over an internet link. The April meeting will feature Ken Legal presenting "Our Changing Sun."

Our featured speaker for the meeting was David Britz, who spoke about "The Moons of Our Solar System." Dave discussed how our knowledge of these moons has really only developed over the past thirty-five years. During that time, we have come to realize the vast numbers that exist and the differences between them. The presentation used photographs and graphics to demonstrate that some moons are rocky like our Moon while others are made of ice and/or complex hydrocarbons which may harbor forms of life. Some moons, far distant from the Sun, show evidence of geothermal activity. Dave discussed cratering and what we can learn about a moon from these impacts, theories about their formation and how they may have become moons.

Dave also provided those present with handouts containing information about the upcoming Lunar Eclipse and how to photograph it.

After the break, Nancy presented the Objects of the Month. For Beginners, she chose The Crab Nebula (M1) a supernova remnant in Taurus. This was the first Messier Object and has an extensive history. The Challenge Object was NGC 3172 (Polarissima) a Galaxy in Ursa Major.

Doug discussed the darkness cycles for the months of February and March since the Messier Marathon time is approaching. He proposed Coyle Field the week of March 3rd through the 8th. He suggested that it will not be easy to spot them all in one night this year because the dark cycle is so early in the month. Check the website for details since the club will try for a weekend date and Burke Road may be an alternate site.

Invisible Spiral Arms

By Patrick L. Barry

At one time or another, we've all stared at beautiful images of spiral galaxies, daydreaming about the billions of stars and countless worlds they contain. What mysteries—and even life forms—must lurk within those vast disks?

Now consider this: many of the galaxies you've seen are actually much larger than they appear. NASA's Galaxy Evolution Explorer, a space telescope that "sees" invisible, ultraviolet light, has revealed that roughly 20 percent of nearby galaxies have spiral arms that extend far beyond the galaxies' apparent edges. Some of these galaxies are more than three times larger than they appear in images taken by ordinary visible-light telescopes.

"Astronomers have been observing some of these galaxies for many, many years, and all that time, there was a whole side to these galaxies that they simply couldn't see," says Patrick Morrissey, an astronomer at Caltech in Pasadena, California, who collaborates at JPL.



In this image, red represents the galaxy's appearance in visible light, while blue shows its otherwise invisible long spiral arms as they appear in ultraviolet light.

The extended arms of these galaxies are too dim in visible light for most telescopes to detect, but they emit a greater amount of UV light. Also, the cosmic background is much darker at UV wavelengths than it is for visible light. "Because the sky is essentially black in the UV, far-UV enables you to see these very faint arms around the outsides of galaxies," Morrissey explains.

These "invisible arms" are made of mostly young stars shining brightly at UV wavelengths. Why UV? Because the stars are so hot. Young stars burn their nuclear fuel with impetuous speed, making them hotter and bluer than older, cooler stars such as the sun. (Think of a candle: blue flames are hotter than red ones.) Ultraviolet is a sort of "ultra-blue" that reveals the youngest, hottest stars of all.

"That's the basic idea behind the Galaxy Evolution Explorer in the first place. By observing the UV glow of young stars, we can see where star formation is active," Morrissey says.

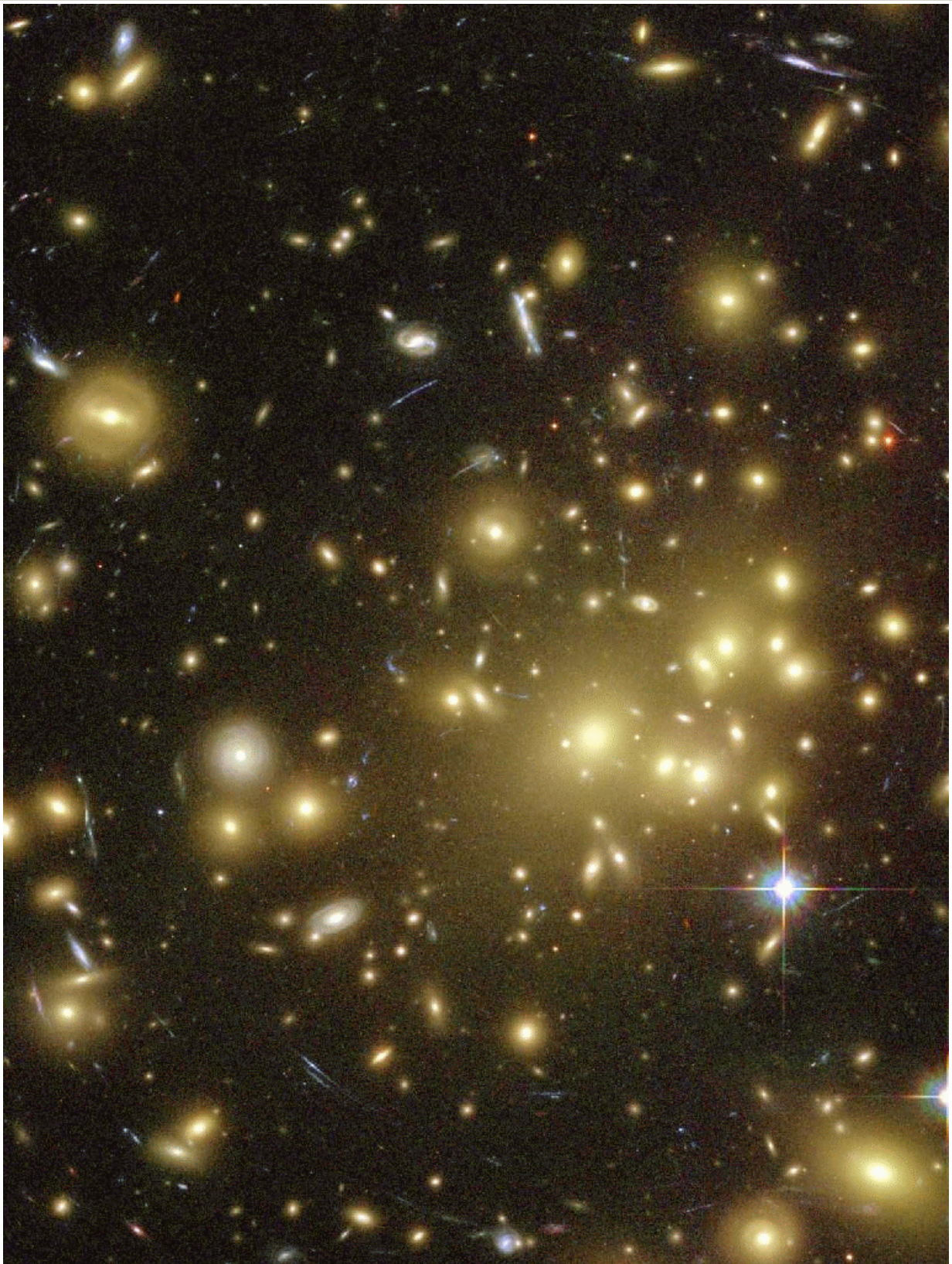
The discovery of these extended arms provides fresh clues for scientists about how some galaxies form and evolve, a hot question right now in astronomy. For example, a burst of star formation so far from the galaxies' denser centers may

have started because of the gravity of neighboring galaxies that passed too close. But in many cases, the neighboring galaxies have not themselves sprouted extended arms, an observation that remains to be explained. The Galaxy Evolution Explorer reveals one mystery after another!

"How much else is out there that we don't know about?" Morrissey asks. "It makes you wonder."

Spread the wonder by seeing for yourself some of these UV images at www.galex.caltech.edu. Also, Chris Martin, principle scientist for Galaxy Evolution Explorer—or rather his cartoon alter-ego—gives kids a great introduction to ultraviolet astronomy at spaceplace.nasa.gov/en/kids/live#martin.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



A massive cluster of yellowish galaxies is seemingly caught in a spider web of eerily distorted background galaxies in the left-hand image, taken with the Advanced Camera for Surveys (ACS) aboard NASA's Hubble Space Telescope. Image Credit: NASA; ESA; L. Bradley (Johns Hopkins University); R. Bouwens (University of California, Santa Cruz); H. Ford (Johns Hopkins University); and G. Illingworth (University of California, Santa Cruz)

Are you a S*T*A*R Member?

S*T*A*R is the proud owner of a **monstrous 25" Dobsonian Obsession reflector** – which members can gain access to!

Meetings are the first Thursday of each month, except July and August, at 8:00 PM at the King of Kings Lutheran Church, 250 Harmony Rd. in Middletown. Meetings generally consist of lectures and discussion by members or guest speakers on a variety of interesting astronomical topics. S*T*A*R is a member of United Astronomy Clubs of New Jersey (UACNJ), the Astronomical League (AL), and the International Dark Sky Association (IDA).

Memberships: () Individual....\$25 () Family...\$35

Name _____

Address _____

City _____ State _____ Zip _____

Phone _____

Email _____

Make checks payable to: S*T*A*R Astronomy Society, Inc. and mail to P.O. Box 863, Red Bank, NJ 07701



2008 March Celestial Events

Supplied by J. Randolph Walton (Randy)

Day	Date	Time (EST)	Event
Sat	1	03:00	Mars Sets
		03:45	Jupiter Rises
		05:23	Mercury Rises
		05:30	Venus Rises
		06:33	Sunrise
		06:35	Saturn Sets
		11:30	Moon Set
		17:52	Sunset
Fri	7	12:14	New Moon
Sat	8	02:40	Mars Sets
		03:25	Jupiter Rises
		05:28	Venus Rises
		06:22	Sunrise
		18:00	Sunset
		19:26	Moon Set
Sun	9	02:00	Daylight Saving Time begins
Fri	14	06:46	First Quarter Moon
		11:31	Moon Rise
Sat	15	03:25	Mars Sets
		04:00	Jupiter Rises
		06:23	Mercury Rises
		06:25	Venus Rises
		06:35	Saturn Sets
		07:11	Sunrise
		12:38	Moon Rise
		19:07	Sunset
Thu	20	01:49	Spring Equinox
Fri	21	14:40	Full Moon
		19:26	Moon Rise
Sat	22	03:05	Mars Sets
		03:37	Jupiter Rises
		06:05	Saturn Sets
		06:20	Venus Rises
		06:23	Mercury Rises
		07:00	Sunrise
		19:15	Sunset
		20:28	Moon Rise
Mon	24	20:45	Zodiacal Light visible in W after twilight for next two weeks
		19:15	Zodiacal Light visible in W after twilight next two weeks
Sat	29	00:22	Double shadow transit on Jupiter
		02:50	Mars Sets
		03:15	Jupiter Rises
		05:40	Saturn Sets
		06:10	Venus Rises
		06:23	Mercury Rises
		06:48	Sunrise
		11:15	Moon Set
		17:47	Last Quarter Moon
		19:22	Sunset

In the Eyepiece

Here is a list of objects for this month. This is reproduced from www.skyhound.com with the kind permission of its creator and author of SkyTools Greg Crinklaw.

Object(s)	Class	Con	RA	Dec	Mag
M 48	Open Cluster	Hydra	08h13m46.1s	-05°47'08"	5.5
Castor	Multiple Star	Gemini	07h34m35.9s	+31°53'18"	1.6
Struve 1127	Multiple Star	Camelopardus	07h47m00.4s	+64°03'07"	6.8
M 47	Open Cluster	Puppis	07h36m36.0s	-14°28'45"	4.3
M 67	Open Cluster	Cancer	08h51m26.1s	+11°48'43"	7.4
M 46 and NGC 2438	Open Cluster + Planetary Nebula	Puppis	07h41m47.8s	-14°48'06"	6.6
Eskimo/Clown Face	Planetary Nebula	Gemini	07h29m10.8s	+20°54'42"	9.9
NGC 2477	Open Cluster	Puppis	07h52m16.8s	-38°31'48"	5.7
NGC 2440	Planetary Nebula	Puppis	07h41m55.4s	-18°12'31"	10.8
Focus On Thor's Helmet	Diffuse Nebula	Canis Major	07h18m36.0s	-13°12'00"	10?
Gemini Nebula	Planetary Nebula	Gemini	07h25m34.7s	+29°29'26"	13.0
Hourglass	Planetary Nebula	Monoceros	07h09m22.5s	-00°48'24"	11.8
NGC 2419	Globular Cluster	Lynx	07h38m11.0s	+38°53'11"	11.0
The Integral Sign Galaxy	Galaxy	Camelopardus	07h11m22.6s	+71°50'10"	13.1
Abell 31	Planetary Nebula	Cancer	08h54m11.4s	+08°54'30"	12.2
The Medusa	Planetary Nebula	Gemini	07h28m59.2s	+13°15'16"	11.3
M 1-18	Planetary Nebula	Puppis	07h42m04.2s	-14°21'20"	14.0
M 95	Galaxy	Leo	10h44m00.0s	+11°41'57"	10.5
M 96	Galaxy	Leo	10h46m48.1s	+11°48'54"	10.1
The Leo I Dwarf	Galaxy	Leo	10h08m30.6s	+12°18'07"	11.2
Markarian 421	Galaxy	Ursa Major	11h04m27.4s	+38°12'34"	14.8
NGC 3395	Galaxy	Leo Minor	10h49m52.4s	+32°58'35"	12.4
NGC 2818/A	Planetary Nebula in Open Cluster	Pyxis	09h16m01.5s	-36°36'37"	13.0

Moon Phases

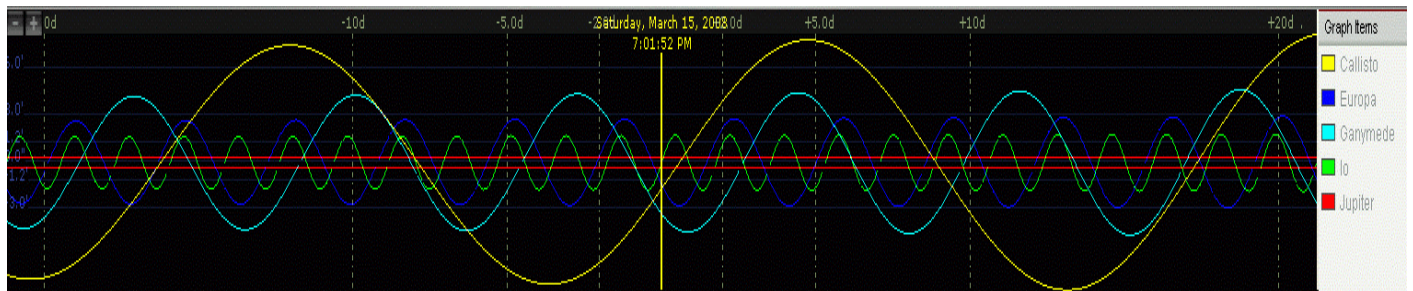


AstroPuzzle Solution for February 2008

1	S	O	T		4	H	A	V	O	C		9	S	P	E	E	D		
14	C	U	R		15	A	M	I	N	O		16	L	I	B	R	A		
17	U	T	E		18	T	O	P	E	R		19	A	T	B	A	Y		
20	F	L	A	R	E	S					22	O	A	T	H				
24	F	E	T	E				25	S	A	N	D		27	Y	E	A	R	
31	S	T	Y	E			32	A	T	L	A	S				33	B	T	U
					34	V	A	G	U	E			36	G	A	B	O	N	
		38	O	B	E	R	O	N			40	T	R	U	I	S	M		
42	C	R	U	S	T				43	F	R	A	N	K					
44	P	A	R				45	C	O	M	E	T		47	I	C	E	D	
51	A	L	P		52	O		53	U	R	G	E		54	D	U	E	E	
					55	R	H	E	A				57	B	I	O	T	I	C
59	A	L	I	B	I			62	L	I	N	E	D		65	E	S	E	
66	D	E	L	I	S			67	L	O	Y	A	L		68	S	O	N	
69	M	E	L	T	S			70	Y	U	C	K	Y		71	T	N	T	

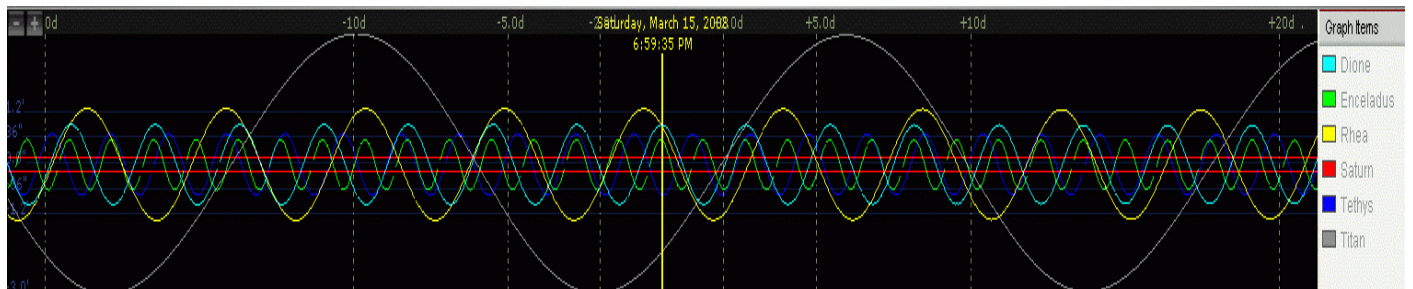
Jupiter Moon Calendar

Here is a graphical depiction of the visible moons of Jupiter for the month of February 2008.

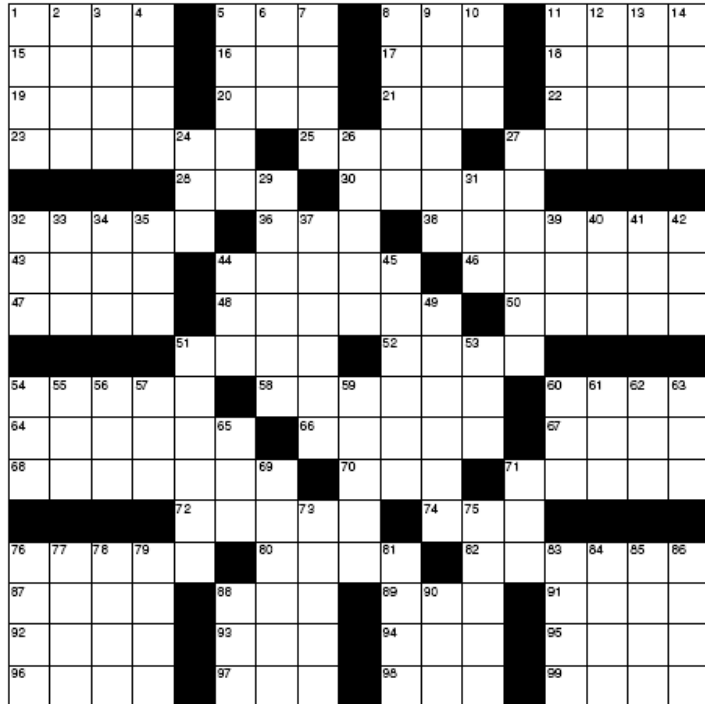


Saturn Moon Calendar

Here is a graphical depiction of the visible moons of Saturn for the month of February 2008.



AstroPuzzle - March 2008



www.CrosswordWeaver.com

ACROSS

- 1 Southwest by south
 5 Knock
 8 Total
 11 Casing
 15 Intertwine
 16 Stretch to make do
 17 *Amount of time it takes the Earth to spin once on its axis.*
 18 Look
 19 Small particle
 20 Sedan
 21 Wrath
 22 Disfigure
 23 *A gaslike association of ionized particles that responds collectively to electric magnetic fields.*
 25 Secondhand
 27 Horses
 28 Central processing unit
 30 Completely
 32 Lash
 36 *A negatively charged lepton, similar to an electron or a muon but much more massive*

- and very short-lived.*
 38 Shed (2 wds.)
 43 Lean
 44 Insane
 46 Crustacean
 47 Organization of Petroleum Exporting Countries
 48 *A moon of an adjacent planet named after the greek God of fear.*
 50 Whoop
 51 Other ___
 52 Grating sound
 54 *That point on the celestial sphere directly below the observer.*
 58 Women's stockings
 60 Heal
 64 Relating to life
 66 Chop
 67 Wields
 68 Entirely outstanding performers (2 wds.)
 70 Make lace
 71 Supporting structure
 72 The one left
 74 Baboon

- 76 Memorize
 80 Wagon pullers
 82 Navy cleric
 87 Pituitary hormone
 88 Rascal
 89 Serving of corn
 91 African nation
 92 Loafer
 93 Compass point
 94 Bullfight cheer
 95 Computer "button"
 96 Bod
 97 Zip
 98 Nothing
 99 Biblical "you"
DOWN
 1 Slipup
 2 Tweed
 3 Wine bottle
 4 Baths
 5 Review
 6 Also known as (abbr.)
 7 South American country
 8 Bye
 9 Shina
 10 Tint
 11 *The hazy-looking*

- patch surrounding the nucleus of a comet.*
 12 Seaweed substance
 13 Veer
 14 Snaky fish
 24 Metric weight unit
 26 Brief witty speech
 27 Tangle (2 wds.)
 29 Dweller of the Beehive State
 31 Thai
 32 Deuce
 33 Leg ending
 34 Lode yield
 35 New York City
 37 Alias
 39 Child
 40 Choose
 41 Challenger
 42 Not JFK
 44 Car speed
 45 *The outermost part of the Sun's atmosphere.*
 49 Holy places
 51 *the largest moon of the planet Neptune.*
 53 South southeast
 54 BB association
 55 Cause of sickness
 56 Pain unit
 57 ___ A Small World...
 59 Metric capacity unit
 60 Pooch
 61 North American nation
 62 Rock group
 63 Vane direction
 65 Pet
 69 Parallelograms
 71 Charge
 73 Evict
 75 Glass kitchenware
 76 Female child
 77 Reverberate
 78 *The smallest particle of any element.*
 79 *The second largest moon of Saturn.*
 81 Ne
 83 Skip
 84 Speed
 85 Healing plant
 86 Before ten
 88 Hotel
 90 Boxer Muhammad