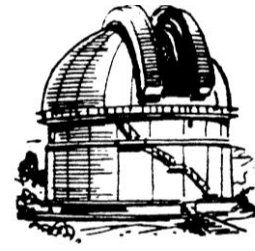


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# Journal

*of the*



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## Nottingham Astronomical Society

December 2001

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### **Inside this issue**

- Sky Notes for December 2001
- Diary Dates
- Anniversaries this month
- Extraordinary Meeting Notice
- Observation of the Occultation of Saturn on 2001 November 3
- Spacecraft News
- Small Ads
- Best of the Web

*Thursday, 6 December 2001*

*Doors open 7.30pm*

*Djanogly CTC*

## **Cosmic Chemistry**

is the title of the evening's talk, and our speaker is

**Dr. Roy Gretton**

Vice President of the  
Nottingham Astronomical Society

**A Very Merry Christmas  
To All Our Readers!**

And 'Thank You' to all who have contributed items for the Journal during 2001.  
Without them, we would not have a Journal!

The Editor

# SKY - NOTES

## FOR DECEMBER

**Brian Griffin**  
**Director of Observing**

### SOLAR & PLANETARY DATA

Object Visibility	Date	R.A. h m	Dec ° '	mag	dia "	Elong. / Constellation /
Sun	Dec 2	16 33	-21 56			
	12	17 17	-23 04			
	22	18 01	-23 26			
Mercury	Dec 4					Superior conjunction
	Dec					Poorly placed as an evening object
Venus	Dec					Poorly placed as a morning object
Mars	Dec 7	22 05	-13 07	+0.5	7.1	evening sky , SW, Aquarius
	27	22 59	- 7 20	+0.7	6.4	evening sky , SW, Aquarius
Jupiter	Dec 7	07 00	+22 40	-2.6	46x43	all night , SE , Gemini
	27	06 49	+22 57	-2.7	47x44	all night , SE , Gemini
Saturn	Dec 3					Opposition
	7	04 40	+20 17	-0.2	18.7	all night , S , Taurus
	27	04 33	+20 06	-0.1	18.5	all night , S , Taurus
Uranus	Dec					Too low in SW sky for observation
Neptune	Dec					Too low in SW sky for observation

### LUNAR DATA

<u>Phases</u>	December	Last Qtr : 7d 20h	New : 14d 21h
		First Qtr : 22d 21h	Full : 30d 11h
<u>Apsides</u>	December	Perigee : 7d	Apogee : 21d

## METEOR SHOWER

Geminids	Activity from Dec 13d - 22d	Max activity: Dec 13d 22h
	ZHR: 100	Radiant: Near Castor
	Conditions: Very Favourable	
	Age of Moon: 1 day before new	

Conditions for observing the Geminids in 2001 could not be any better - the Moon's phase is virtually New and maximum activity occurs around 10pm at night. December 13 is a Thursday night.

This year there will be a meteor watch at the Mount Pleasant Observatory site on Thursday night, 13 December. Gates will be open at 8pm and the watch will go on for as long as people are prepared to stay, bearing in mind some may need to work the next day. December is not a warm month, so bring plenty of suitable clothing. Expect the temperature to be several degrees cooler than you may expect at your own garden, the site is very exposed and the wind-chill factor will take its toll if you are not suitably dressed. Remember, there is NO heating at the site.

**Note:** This watch will only go ahead if the sky is clear, or reasonably clear. If in doubt please give me a ring after 6pm on 13 December to see if the watch is going ahead. The phone number is in the Journal.

## RIISING AND SETTING TIMES (UT)

### November 30/December 1

Sun set	15h 50m
Saturn rises	16 00
Jupiter rises	18 10
Neptune sets	20 20
Uranus sets	21 45
Mars sets	21 50
Venus rises	06 50
Mercury rises	07 40
Sun rise	07h 50m

### December 31/January 1

Sun set	16h 00m
Mercury sets	17 00
Neptune sets	18 25
Uranus sets	19 45
Mars sets	22 05
Saturn sets	05 50
Venus rises	08 00
Sun rise	08h 10m

## DIARY DATES, by Carl Brennan

### FUTURE MEETINGS OF THE NOTTINGHAM ASTRONOMICAL SOCIETY

**December 6<sup>th</sup> Djanogly C.T.C.**

Doors open from 7.30pm

#### **COSMIC CHEMISTRY**

Talk by Dr. Roy Gretton,  
Vice President of

Nottingham Astronomical Society

**December 17<sup>th</sup> MONDAY**

#### **Committee Meeting**

7.30pm,

El Presidente's Palace

**2002**

**January 3<sup>rd</sup> Djanogly C.T.C.**

Doors open from 7.30pm

#### **ASTRO QUIZ**

Details to follow, but there  
will be prizes to be won!

**February 7<sup>th</sup> Djanogly C.T.C.**

Doors open from 7.30pm

#### **ASTROPHOTOGRAPHY – A PERSONAL ADVENTURE**

Talk by Mark Thomas, Secretary of  
Ilkeston & District Astronomical Society

**March 7<sup>th</sup> Djanogly C.T.C.**

Doors open from 7.30pm

#### **ASTRONOMY AT THE UNIVERSITY OF NOTTINGHAM:**

#### **FROM TEN INCHES TO**

#### **TEN METRES, AND**

#### **EVERYTHING IN BETWEEN**

Professor Michael R. Merrifield  
BA (Oxon), AM, PhD (Harvard)

**September 5<sup>th</sup> Djanogly C.T.C.**

Doors open from 7.30pm

#### **THE HUMANIZATION OF SPACE**

Talk by Dr. Michael Martin-Smith, author  
and member of Hull Astronomical Society

### OTHER EVENTS

**9<sup>th</sup> December Sunday, The Sky at  
Night** BBC1, late "Can Venus Have  
Been the Star of Bethlehem?"

With David Hughes and Mark Kidger  
repeated Saturday 15<sup>th</sup> December, BBC2.

**January 25-26 (Fri-Sat):**

#### **THE 7<sup>th</sup> BURTON WINTER BEER FESTIVAL,**

BURTON ON TRENT TOWN HALL,  
KING EDWARD PLACE.

Open Fri noon-3pm & 630-11pm,

Sat 1130-4 & 7-11pm. 45+ real ales.

Prices CAMRA members free all sessions.

Free lunchtimes, £2 for commemorative

glass. Fri evening £4.50 incl. glass. Sat

evening £4 incl glass. Entertainment both

evenings. Food available all sessions.

More details on website

[camra.org.uk/burton](http://camra.org.uk/burton).

### OTHER NEWS

**MARK THIS DIARY DATE FOR  
NEXT YEAR!**

#### **ILKESTON & DISTRICT ASTRONOMICAL SOCIETY (IDAS)**

**21<sup>st</sup> BIRTHDAY CONVENTION** – details to  
follow but it will be on either May 11<sup>th</sup> or 18<sup>th</sup>.

#### **Nottingham Astronomical Society**

The Secretary compiles these Diary Dates.

Contributions are always welcome (please include  
source acknowledgement). Nottingham

Astronomical Society, and/or the Secretary accept

no responsibility for any errors that may occur

within this publication. Any views expressed in

*Diary Dates* are those of the individual authors and

not necessarily endorsed by the Secretary,

Nottingham Astronomical Society, its Committee

or Members.

## ANNIVERSARIES THIS MONTH

**14<sup>th</sup> December 1546 Tycho Brahe (1546-1601)** Tyge (Latinized as Tycho) Brahe was born on 14 December 1546 in Skane, then in Denmark, now in Sweden. Tycho became interested in astronomy after seeing a supernova in Cassiopeia. Without the use of a telescope he made the most detailed and accurate star charts available for this time. Tycho strongly believed the Earth to be at the centre of the Solar System, and would have been somewhat annoyed had he lived to see his assistant Johannes Kepler use his records to prove the Copernican theory. Do visit [http://es.rice.edu/ES/humsoc/Galileo/People/tycho\\_brahe.html](http://es.rice.edu/ES/humsoc/Galileo/People/tycho_brahe.html)

**24<sup>th</sup> December 1966 Lunik 13 Moon Lander (Luna 13)** accomplished a soft landing on December 24, 1966, in the region of Oceanus Procellarum. The petal encasement of the spacecraft was opened, antennas were erected, and radio transmissions to Earth began four minutes after the landing. On December 25 and 26, 1966, the spacecraft television system transmitted panoramas of the nearby lunar landscape at different sun angles. Each panorama required approximately 100 minutes to transmit. The spacecraft was equipped with a mechanical soil-measuring penetrometer, a dynamograph, and a radiation densitometer for obtaining data on the mechanical and physical properties and the cosmic-ray reflectivity of the lunar surface. It is believed that transmissions from the spacecraft ceased before the end of December 1966.

**27<sup>th</sup> December 1571 Johannes Kepler** was born in Weil der Stadt, Württemberg, then part of the Holy Roman Empire, now part of Germany. He is remembered for his three laws of planetary motion, which finally proved the Sun and not the Earth was at the centre of the Solar System. He died on November 15<sup>th</sup> 1630 in Regensburg, Germany

**28<sup>th</sup> December 1882 Arthur Stanley Eddington** was born in Kendal, Cumbria. Eddington was one of the first to prove Einstein's theories by observing a star during a solar eclipse. Eddington's other works lead to a complete re-think of stellar evolution.

Carl Brennan

## EXTRAORDINARY MEETING NOTICE

Notice is hereby given that the executive committee of the Nottingham Astronomical Society called for an Extraordinary meeting of the Society in accordance with term Q of the Constitution for the evening of **2002 January 3<sup>rd</sup>**, (called for at the meeting of the committee 2001 October 18<sup>th</sup>). The extraordinary meeting is being called to discuss the motion;

**“The Executive Committee proposes that the document known as Draft Rules-01 be adopted as the Rules of the Society”**

Copies of this document are available from the secretary (40 Swindon Close, The Vale, Giltbrook, NOTTINGHAM, NG16 2WD (please enclose C5 SAE), also at [carl.stella@virgin.net](mailto:carl.stella@virgin.net)), at ordinary meetings, or at [http://communities.msn.co.uk/CarlsStellaWorld/files.msnw?fc\\_p=%2FNottingham%20Astronomical%20Society&fc\\_a=0](http://communities.msn.co.uk/CarlsStellaWorld/files.msnw?fc_p=%2FNottingham%20Astronomical%20Society&fc_a=0) (sign in/passport required)

Members are asked to review this document, any comments, or objections should be forwarded to the secretary at the above addresses. Please remember that only paid up members aged 18 or over are entitled to vote on the above proposal.

2001-10-20 Carl J. Brennan (Society Secretary)

## OBSERVATION OF OCCULTATION OF SATURN ON 2001 NOVEMBER 3

**Event :** Occultation of Saturn by the Moon  
**Moon's Phase :** 2 days after Full  
**Date :** 2001 November 3d  
**Conditions :** 9/10's to 10/10's cloud, with drizzle at times.  
**Instrument :** 10 x 50 binoculars

Conditions for observing this interesting event could not have been much worse. I had virtually given up all hope when it started to drizzle at about 8pm (an hour before Saturn was due to disappear behind the Moon).

By chance I looked outside at about 8:50pm and noticed that a relatively open clear spot in the clouds enabled the Moon to come through. Unfortunately, this did not give me sufficiently enough time to get the telescope out, as the disappearance of Saturn was due at about 9:07pm (21h 07m UT). Therefore I had to resort to using 10 x 50 binoculars.

Although the Moon was near Full, Saturn was easy to see at 8:55pm just a few arc minutes from the bright lunar limb. Passing thick cloud intervened for a few minutes leading up to disappearance, but the actual event of disappearance was seen through the binoculars.

Saturn could just be seen as a slightly oval shape through the binoculars so the actual disappearance took several seconds to take place. Because I was using binoculars the event I saw was for the ball of the planet only going behind the Moon, the rings were too faint against the bright lunar limb to be sure of seeing that part of the occultation.

Reappearance (due at about 10:02pm, 22h 02m UT) was not seen due to thick cloud. At 10:10pm I gave up when a slight drizzle descended.

Spode's Law was definitely in evidence this time. The previous night (Friday) was clear, and Saturday was clear up to about 3:00pm. As I type this article the next morning (Sunday, at 9:45am) the Sun has just come out and the sky is a vivid blue colour!!!

Oh well, that's life as they say - here's hoping the night of Nov 30/Dec 1 is better for the next occultation of Saturn.

***Brian Griffin***

*Brian had marginally more luck than I did in my attempt to observe the occultation. I was at a public firework display in Wilford on the evening of November 3. I took my binoculars, but the Moon was invisible due to total, thick cloud cover.*

***The Editor***

## SPACECRAFT NEWS (23/11/01)

**Genesis** 20 November, 2001

On 16 November the spacecraft reached its destination — Earth's L1 Lagrangian point, 1.5 million kilometres (930,000 miles) away — and has begun to collect material from the solar wind. From its new home, Genesis will cast a "net" of ultrapure silicon and sapphire wafers in the hopes to capture and return to Earth between 10 to 20 micrograms of coronal material.

However, the mission may be in jeopardy due to a malfunctioning thermal radiator on the sample-return capsule. Engineers at the JPL believe that a contaminant in the radiator's white paint has degraded after constant exposure to ultraviolet sunlight and, as a result, ruined the radiator's ability to dissipate heat. Consequently, the battery needed to operate the return capsule in the critical final hour of the mission is overheating well beyond its design limit. The beleaguered battery should survive this ordeal, but no one will know for sure until the parachute deploys during Genesis' 10½-km-per-second reentry above the Utah desert in September 2004. Meanwhile, the capsule's lid, having opened to allow the collector panels to deploy, is currently being kept almost closed to shade the battery as best as possible.

*Extracts from JPL/NASA web sites.*

*Brian Griffin*

### Small Advertisements

#### **David Lukehurst**

Astronomical Telescope Maker

Dobsonian Mounted  
Newtonians

From 6¼ to 25-inches plus

12-inch f/6 truss-tube Dobsonian  
£995

6-inch f/12 Achromatic Object Glasses  
£295

1¼-inch Super-Plossl Eyepieces  
£32

Ronchi testing eyepieces (50 or 100 lpi)  
£32

**For details & price list:**

Tel: 0115 9602266

e-mail: [gildor@ntlworld.com](mailto:gildor@ntlworld.com)

#### **“Small Ads” in the NAS Journal**

The Journal can accept small advertisements, as long as they relate in some way to astronomy or space science.

NAS Members' advertisements of up to 50 words are accepted free of charge.

**Advertisements of a commercial nature (such as the one aside)**, up to one quarter of a page in size, are accepted at a cost of £1 per issue or £10 for the year (11 issues).

**All advertisements are accepted at the discretion of the Journal Editor.**

Please send your advertisement to the Journal Editor.

Cheques in payment for commercial advertisements should be made payable to “Nottingham Astronomical Society” and sent to the Treasurer.

## Best of the Web

### **Project Apollo Archive**

[www.apolloarchive.com](http://www.apolloarchive.com)

One of my all-time favourite websites. There is a large gallery of pictures taken during the Apollo missions – some very familiar but others less so. The images are still great to look at, even though it all happened thirty years ago. Somehow, the ISS seems a little unexciting by comparison.

### **Sky at Night Newsletter**

Regular viewers of the 'Sky at Night' will know that there is a Newsletter available by post from the BBC. But there's no longer a need to send away for it – the Newsletter is now also available on the BBC Space website at

<http://www.bbc.co.uk/science/space/spaceguide/skyatnight/newsletter.shtml>

*Just bending the rules a bit this month to mention a couple of “non-astronomical” websites:*

**Carl Brennan tells me of** <http://www.givewater.org/>

Just by going to the site and clicking on the site icon you help to raise a further £50 000 pounds towards a £150,000 target to be donated by Thames Water towards water projects for the third world.

**And finally...**

**Get in touch with your old schoolfriends at** [www.friendsreunited.co.uk](http://www.friendsreunited.co.uk)

(Note that you need to register with the site to make full use of it.)

This website has worked well for me: I added my name to the list for my old school and soon received an e-mail from one of my former school mates. He put me in contact with another long-lost friend and I have had news of a third. It's thirty years since I last heard from any of them and it was fascinating to hear how they have got on over the years!

*Paul Stocks*

### **FINAL FRONTIER – BBC2**

This month's 'Final Frontier' programme is on BBC2 on the night of 6/7 December (at 00.30am on 7 December) and is repeated at 01.05am on 14 December.

The regular location for the programme is the new National Space Centre in Leicester.

Well worth setting your video for.

### **Nottingham Astronomical Society**

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# Nottingham Astronomical Society

Affiliated to the **British Astronomical Association**  
Member of the **Federation of Astronomical Societies**  
Member of the **Society for Popular Astronomy**  
Supporters of the **Campaign for Dark Skies**  
Registered Charity No: 1066645

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## **Meetings**

Formal monthly meetings, with speakers, are held on the first Thursday of each month (except August) at

### **Djanogly City Technology College**

Sherwood Rise, Nottingham NG7

Doors open	7.30pm
Meetings Start	7.45pm
Meetings end	10.00pm

**Non-members** are very welcome at our meetings and there is no charge for the first meeting. We make a small charge of £2.50 adults, £1.25 juniors to non-members after their first attendance. Invited guests are admitted free of charge.

## **Annual Subscriptions, 2001-02**

Full Adult:	£22
Junior (17 years or under)	£11
Concessions	£11

(Full time student, UB40, Senior Citizens)

Subscriptions become due at the October AGM. Half-price subscription is charged if joining after 1st April. Please make cheques payable to:  
**Nottingham Astronomical Society.**

## **Saturday Night Observing Sessions**

These are dependent on suitable sky conditions. Please phone either:  
**Brian Griffin** 0115 929 8364, or  
**Robin Gray** 0115 965 6340  
approximately one hour before sunset on Saturday evenings, to check if the observing site will be open. (Sunset times are in **Sky Notes**.)

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If you would like further information about the Nottingham Astronomical Society, or would like to become a member, please contact the Honorary Secretary, Carl Brennan, at the address given above. Or speak to any NAS committee member at one of the regular monthly meetings.

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