

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA



SASKATOON CENTRE

PRESIDENT: Halyna Kornuta

EDITORS: Dave Pristupa & Greg Towslego

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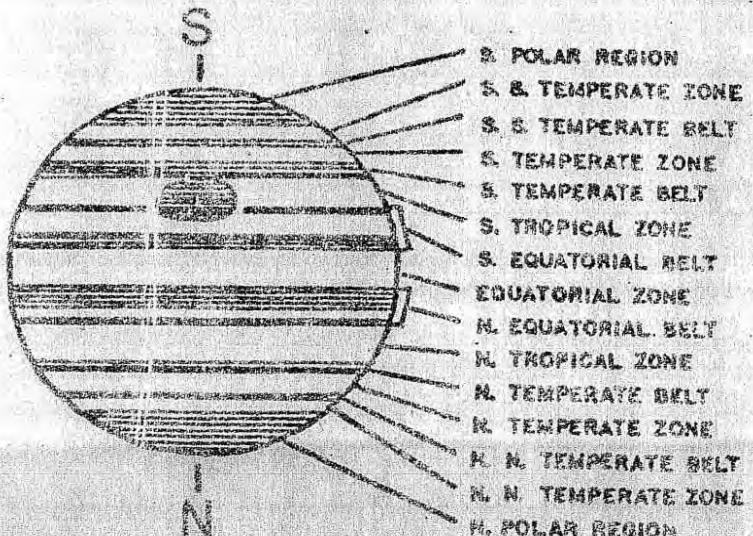
SASKATOON, SASK

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NOVEMBER, 1975

# NEWSLETTER

## JUPITER'S BELTS AND ZONES



Viewed through a telescope of 8-inch aperture or greater, Jupiter exhibits a variety of changing detail and colour in its cloudy atmosphere. Some features are of long duration, others are short-lived. The standard nomenclature of the belts and zones is given in the figure.

WELCOME TO NEW MEMBERS

THE PRESIDENT REPORTS

Halyna Kornuta

As a new year opens for the Centre, I would like to thank the past executive members for serving their Centre, and especially wish good luck to our past Secretary, Melodie Andrews, who is now in Edmonton.

A year of challenge awaits the Centre in the upcoming year. Much planning will continue to occur and as you become involved in Centre activities, good experience will result.

The list of the new Executive council contains our phone numbers, so please feel free to contact us regarding the activities within the Centre.

Remember, the next General Meeting is on November 18, plan to attend.

NOTE: Membership fees can be paid at the November General Meeting. Remember, if you pay before the December General Meeting, this will insure you a copy of the Handbook and a subscription to the Journal.

Saskatoon Centre General Meetings are held every third Tuesday of each month in Room B110, Health Sciences Building - Campus. In some cases this location is subject to change, in which case members will be notified.

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OBSERVING AND ASTROPHOTOGRAPHY GROUP - - UPDATE OF SIGHTINGS

Messier 2	Messier 29	Messier 67	Me 1 25 = Hyades
Messier 3	Messier 31	Messier 76	
Messier 5	Messier 33	Messier 92	
Messier 8	Messier 34	Messier 103	
Messier 11	Messier 39	NGC 168	
Messier 13	Messier 42	NGC 457	
Messier 15	Messier 43	NGC 659	
Messier 16	Messier 45	NGC 1973 = 5 = 7	
Messier 17	Messier 46	NGC 6712	
Messier 20	Messier 51	NGC 7510	
Messier 22	Messier 52	Double Clusters = Perseus	
Messier 27	Messier 57	IC 59 = open cluster	

THE EXECUTIVE COUNCIL FOR 1975 . . .

HONORARY PRESIDENT DR. R.W. CHADDE

PRESIDENT	HALYNA KORNHAU	230 ST. ANDREW AVE.	241 - 2061
V.P./P.R.	MR. JIM YOUNG	2513 MEIRISE AVE.	242 - 4661
SECRETARY	LILLIA WILCOX	2527 CLARENCE AVE.	173 - 7162
TREASURER	MR. A.T. BLACKWELL	233 SIMON FRASER CR.	373 - 3130
EDITOR	GREG TORSTEDT	3418 DUFFEY ST.	382 - 6243
ACTIVITIES COORDINATOR	MR. MERLYN MCILBY	1615 ARGYLE AVE.	374 - 3766
LIBRARIAN	MR. HIGH HUNTER	213 32nd ST. W.	652 - 0161
CENTRE REPRESENTATIVE	MR. G.N. PATTERSON	79 BALDWIN CR.	374 - 2615
SUB-COUNCILLOR	DOUG BECK	812 31st ST. W.	242 - 1582

THE ROYAL ASTRONOMICAL SOCIETY 1926  
SASKATOON CENTRE

**MEETING NOTICE**

Place Rm B-110 Health Sciences Bldg, U of S

Date Tuesday, 18 November, 1975

Time 8:00 pm

Purpose General Monthly Meeting

Film: The Strange Case of Cosmic  
Rays

# JUPITER

Wendel Frenzel

Jupiter is the giant planet of the solar system. Its mass is  $2\frac{1}{2}$  times greater than the masses of all the rest of the planets put together. It is still only about one-thousandth the mass of the sun. Mainly because of its huge size, 86,800 miles diameter, Jupiter is one of the most conspicuous objects in the sky.

Jupiter is so bright that early astronomers thought it must be hot, like the Sun and the stars, producing its own light. Since then it has been found that Jupiter is a cold planet. The bright light coming from Jupiter is sunlight, reflected by its surface.

Jupiter is the fifth planet outward from the sun and circles around it in slightly less than 12 years at a mean distance of 483,000,000 miles. Because of this 12-year period, the planet moves eastward through approximately one constellation of the zodiac each year.

Like the other planets Jupiter rotates on its axis, but its speed exceeds all the others so that its day is only 9h 50m. This rapid rotation, equivalent to a speed greater than 2500 miles an hour at its equator, has caused a marked equatorial bulge.

All that we can see through our telescope on Earth is the upper layer of Jupiter's atmosphere, of a vast turbulent cloud coverage. The outermost layers of the atmosphere of Jupiter consist of hydrogen with some methane and ammonia. Floating in it are clouds of crystallized ammonia at a temperature of about 150 C. It is the clouds of ammonia which reflect light and are seen. These cloud belts are of a more or less permanent nature, though from time to time their continuity is broken by the appearance of bright or dark spots. Many of these are short-lived while others, like the great Red Spot of 1878, persist for decades. The latter covers an area of many thousands of square miles, and while its brilliance and colour change from time to time, the spot is always situated on the planet's southern hemisphere.

The only way of telling what elements are present on Jupiter is to examine the light reflected by its surface. This light comes in the first place from the Sun. Most of it is reflected by the atmosphere, but certain colours, or wavelengths may be absorbed by atoms and molecules in the atmosphere. These wavelengths will therefore be missing in the light reflected back towards the Earth. Missing wavelengths can be detected by splitting the light up into its spectrum. Missing bands of colour indicate that hydrogen, methane and ammonia are present.

Although the cloud belts are prominent features of Jupiter, even more prominent are its 12 moons whose changing positions are a source of great interest. Four of these moons are easily discernible with diameters ranging from about 3,220 to 1,960 miles. These four are closest to the planet, move from west to east, and take from 38 to 42 hours to go round it. Three more go from west to east. The others move in the opposite direction. Five of the moons are thought to be less than 10 miles in diameter. The distances of the moons from the planet vary from 112,000 to 11,700,000 miles.

In their motion around Jupiter the moons frequently pass behind the disc or into its shadow and the moment of each disappearance or reappearance is one of the most interesting phenomena that an amateur can observe. Such observations have had great historical importance for in 1675 they made possible the determination of the velocity of light. This was accomplished by noting the difference between predicted times of disappearance and the actually observed times.

Another interesting observation is the appearance of a round black spot on Jupiter; this spot is none other than the shadow of one of the moons cast by the Sun.

Jupiter - continued

Since Jupiter is so far from the sun, its source of heat, the planet is unsuitable for habitation. This however is only one problem to be considered by man in his conquest of space: the pressure of Jupiter's atmosphere is greater than man can withstand, and the atmosphere itself contains gases poisonous to humans. Even though we may not consider travelling to the giant planet at the present time, Jupiter will continue to be a beautiful celestial object.

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#### PHYSICS FOR FUN

The Department of Physics in cooperation with the University of Saskatchewan's Extension Division is pleased to announce the 8th annual "Physics For Fun" Popular Lecture and Film Series. The programs are designed for the general public and are open to everyone free of charge.

The 1975-76 Series will consist of four film shows and three lectures. The program will open with a film show to be held on Wednesday, November 26, 1975 at 8:15 pm in Room 107, Physics Building. The films to be shown are:

1. Partnership in Space: Mission Helios - 1975, 27 minutes, (NASA). It deals with joint U.S. - German project to explore the Sun.
2. Apollo Soyuz - 1975, 28 minutes, colour (NASA). The film briefly outlines the joint venture but concentrates on the history of U.S. and Soviet Space efforts.
3. Who's Out There? - 1974, 29 minutes, colour, produced by Drew Associates for NASA. Narrator Orson Welles harkens back to his infamous "War of the Worlds" radio broadcast to introduce this discussion of extra-terrestrial life. Project Cyclops, a radio telescope built to receive messages from space is touched upon and a panel of distinguished scientists discusses theories and possibilities of life forms on other worlds.

The next "Physics For Fun" will be a lecture on January 14, followed by a second film showing on January 28, 1976.

All Centre members are encouraged to attend this educational and informative series.

# RASC GENERAL ASSEMBLY-Calgary 1976

For the benefit of new members to our Centre, the list of categories and regulations for the RASC General Assembly to be held in Calgary from 21 to 24 May, 1976 is being reprinted.

Mary members are aware of what a General Assembly is, but for those who do not, an explanation is in order to educate new members about this beast known as a General Assembly.

Briefly, a General Assembly is an annual meeting of all of the RASC Centres across Canada ( some 18 of them ) at which meetings are held along with displays of photographs, telescopes, slides, etc. from participating Centres. In 1974, it was held in Winnipeg and some 14 members of the Saskatoon Centre attended, bringing back a first prize for the best Centre display. Doug Beck also won an award for his homebuilt 8" telescope.

Rather than having Centres bring displays at random as has been done in the past, the Calgary Centre has put forth a number of categories and guidelines for displays. All members are encouraged to try their hand at any of these projects, whether it be an astrophotography project done at Gordon Patterson's observatory or a project which can be done at home with nothing more than some imagination. You don't have to come to Calgary to enter a project, so let's get cracking now to assure a positive effort from our Centre.

## THE CATEGORIES

1. NAKED EYE Best report on an observing project carried out without optical aid.
2. BINOCULARS Best report on an observing project using binoculars.
3. MOON Best black-and-white photograph of a thin lunar crescent either less than 48 hours old or less than 48 hours before new.
4. MOON Best set of three eyepiece drawings of any one lunar crater, the three drawings to be done under different conditions of lighting and at least two days apart.
5. SUN Best series of either drawings or photographs showing a sunspot group moving across the surface of the sun.
6. METEORS Best report on the observation of a meteor shower, with paths plotted on a star chart and the radiant point indicated.
7. OCCULTATION Best report on an occultation project successfully carried out.
8. PLANETS Best report on an observing project involving Jupiter and/or its satellites.
9. OPEN CLUSTERS Best set of black-and-white photographs of any four open ( galactic ) clusters from the Messier Catalogue.
10. GLOBULAR CLUSTERS Best set of eyepiece drawings and descriptions of any four globular clusters.
11. GALAXIES Best report on observations of any four galaxies in any one constellation, with descriptions and field drawings.
12. COLOUR PHOTOGRAPHY Best set of three colour slides of any three astronomical subjects.

OPEN CATEGORY	Best submission by an amateur of a report of an observational project (which may include photography) of his or her own choosing - double stars, aurora, variable stars, asteroids, conjunctions, nebulæ, variations of any of the other categories, or whatever.
OR, AND FINALLY, A	"FUN" PROJECT The most imaginative proposals for dividing the constellation of Hydra and the constellation of Craterus each into two new constellations, with new outlines and names which may be mythological or modern or anything in between.

#### THE REGULATIONS

1. This competition is open to all paid up members of the R.A.S.C.
2. The work on a project entered must be done by the entrant between May 1st, 1975 and April 30th, 1976. Old observations, photographs, drawings, etc. must not be submitted.
3. One prize will be awarded in each category, along with 1st, 2nd and 3rd prize ribbons. In addition, a grand prize will be awarded for the best overall exhibit.
4. No individual may enter in more than three categories.
5. The judges will be appointed by, but will not necessarily be, members of the Calgary Centre.
6. All entries which qualify will be on display during the 1976 Assembly, and the names of the prizewinners will be announced before it closes.
7. In judging the "best" entries the judges will take into account the location of the observing site(s), the size and type of instrument(s) and equipment used, the age and experience of the entrant, the time of the year the work is done, the initiative, imagination, care and thoroughness shown in the project, and the neatness and clarity of the presentation.
8. All entries must be mailed in before the Assembly begins; and it is not necessary for an entrant to attend the Assembly in order to qualify. It will be a help if entries are sent in as soon as can conveniently be done when the project is completed; no entry will be accepted bearing a post-mark later than May 4th, 1976.
9. Each entry must be accompanied by an official entry form which can be obtained from Mr. U. Haasdyk, 3123-48th Street S.W., Calgary, Alberta, T2E-3X6. Members planning to enter are asked to write for entry forms at their earliest convenience, stating the categories in which they are interested, in order to give us some idea of the probable exhibition space required.
10. Some categories (e.g. no. 6 or No. 7) may require assistance from other people; this is permissible, but the entry should be submitted over the name of the one person only.
11. Any entry which qualifies in more than one category may be entered in one only, e.g., a binocular observation of an occultation may be entered in category 2 or category 7, but not both.
12. Entries may be submitted in English or French.
13. More detailed information about the categories will accompany the entry forms; any queries should be addressed to Mr. Haasdyk.

SEND FOR YOUR ENTRY FORM TODAY!

World War II

Minutes of the Executive Meeting  
Saskatoon Centre, R.A.S.C.  
Held in the Observatory 2:00 P.M.  
Sunday October 5, 1975

President	Halyna Kornuts	VP/R	Jim Young
Editor	Greg Towstego		
Sub-Councillors	Doug Beck,	Merlin Melby	
Secretary	Melody Andrews	Activites	Wendel Frenzel
Programming	Dr. Holden	Asst. Editor	Dave Printopoli
Treasurer	Alan Blackwell	Librarian	Hugh Hunter

Item	Detail	Action
	<p>Meeting was opened at 2:00 P.M.</p> <p>Session of the General Meeting; membership fees will be \$10.00 (18 and under) \$15.00 (Adult membership). This includes the Newsletter subscription.</p> <p>utive meetings set on the first Sunday of the month at 1:00 P.M.</p> <p>mails to be bound as soon as possible.</p>	<p>Doug Beck Jim Young carrier</p>

Minutes of the General Meeting  
Saskatoon Centre R.A.S.C.  
Held in the Arts-Sciences Bldg. Rm 142  
Tuesday October 21, 1975

President	VP/PR	Jim Young	Editor	Greg Towster
Treasurer		Alan Blackwell	Ast. Editor	THE MAYOR'S STAFFORDSHIRE
Librarian		Hugh Hunter	Sub-Councillors	Douglas Alexander
President	President	Halyne Kornuta	Secretary	SUB-REGIONAL COUNCIL
Programming	Programming	Dr. Holden	Activities	WOMEN'S GROUP

Item	Detail	Action
Meeting was opened at 8:00 P.M.		Gordon Patterson
tion of September minutes.		Hugh Hunter carried
tion of new Executive, slate of candidates proposed by Executive.		
rary President: DR. B.W.CURRIE	Editor; Greg Towatage	
dent: Halyna Kornuta	Activities: Merlin Melby	
President-Press Rep.: Jim Young	Librarian: Hugh Hunter	
etary: Lillia Wilcox	Sub-Councillor: Doug Beck	
urer: Alan Blackwell	Center Rep: Gordon Patterson	
	Doug Beck	
	Milton Aupperle	

It was mentioned that Bob Johnson, the Auditor who in the past has done the books was proposed to be approached to do them for a fee not exceeding \$25.00. Gordon Peterson

SERIES.

Alan Blackwell gave a talk on How Meteorite Craters are formed & insects.  
Gordon Patterson showed slides taken by the Astrophotography group.  
Meeting adjourned. Lynn Baker

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