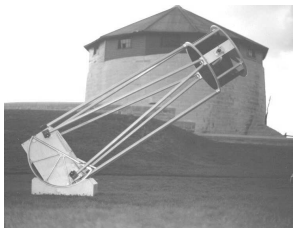
Regulus

The Newsletter of the Kingston Centre of the Royal Astronomical Society of Canada - April 2003



The 61 cm Venor Dobsonian-Mount telescope.

2003 - The Year of The Observatory*

**Our primary goal this year is to find a location to build an observatory for the Centre in general and the Venor telescope in specific.*

Kingston Centre
of the Royal Astronomical Society of Canada
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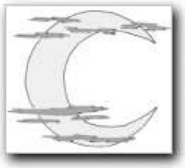
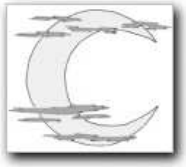
Next Meeting Special Time

Wednesday May 7th at 7:30pm
(Regular Friday meeting cancelled)
Stirling Hall Theatre D (normal room)

Guest Speaker:
David Levy
(Honourary President RASC-KC)
"Shakespeare's King Lear and the Eclipses of 1605: A Cosmic Unit of Science and Art "





The President's Voice

by Hank Bartlett

Here we are just over a week into spring and the transformation has been phenomenal! For those of you living in the Kingston area I am sure you understand just what I mean. No more freezing nights and wading through knee high snow to set up your scope or dig out your observatory (as if I made that journey more than twice this winter anyway). The weather is being so co-operative these days that I can here the buzz of clock-drives and telescopes slewing every night in the village. I too will join my fellow astronomers if I can free myself from the evil kitchen renovation project for a few nights. Those of you who know Di, don't tip her off!

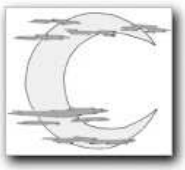
I am sure there are some of you who are planning Messier Marathons and will bring extensive and enthusiastic observing reports to our next meeting, Friday April 11th 7:30-10:00 Dan Falk - Universe on a T-Shirt: The Quest for the Theory of Everything. Our speaker in February Jan Wisniewski told us many tips on how one can prepare and do a marathon. I admit I had never considered attempting this feat before now but after Jan's talk I was very interested in pursuing this as a method of filling up my Messier's List. That is until Jan stated that there is barely time to have a good look never mind actually record the data required for the list. If

you are interested in attempting a Messier Marathon you can visit Jan's website at http://astrosurf.com/jwisn/ to see his marathon reports.

For those of you who are unable to make it to our meetings or maybe are unsure as to whether they are for you or not, there is a great deal of knowledge being shared from month to month. Last month Mark Kaye (http://www3.sympatico.ca/mark.kaye/) took us through a photographic journey of his past 30 years of astronomy. Mark started with some of his first astrophotos as a young astronomer ending with his most recent work. For those of you who were present at both the February and March meeting you had an excellent opportunity to compare ccd and film imaging. The caliber of imaging by both of these men is inspiring and a goal to strive for. Whichever format you choose and whatever your level of expertise there is a great deal to learn from seeing the work of others and being able to discuss their techniques. Do join us and take full advantage of your membership in the Kingston Centre, remember our equipment loan program as well.

I look forward to hearing the observing reports of those of you who can make it to our monthly meetings. If you cannot make it in person you can always send interesting reports or observations to the newsletter editor for publication in Regulus.

Share the view,
Hank



Baader Solar Filter Film will be available at the April 11th Meeting.

The Centre purchased a large sheet and will be selling it off in custom sizes for $0.04 per square centimeter. For instance a 6" size would cost you:
6" but you want a ½" margin around the edges for a total size of 7"x7".
We cut it in square shapes so you can make the choice of trimming your own to a circle, or leaving it to be mounted as a square.
7"=18cm 18^2=324 cm^2 * $0.04 = $13

Instructions for mounting it will be available there as well, but basically you get some stiff cardboard, like a cereal box and mount it to that.

Messier Certificates

Rumour has it that two more centre members have completed the requirements for their Messier Certificate: to wit:

On the initiative of the Edmonton Centre. the National Council established an award to members of the Society who had observed all 110 Messier objects. The Messier Certificate is awarded on the same basis as the Society's Membership Certificate.

Charles Messier was a famous 18th century French Astronomer, nicknamed the ferret of comets, who discovered 13 comets between 1759 and 1801. But despite this amazing record Messier's name is today not associated with comets but with a catalogue of deep sky objects listed by Messier as objects to avoid for comet hunters. First issued in 1781 with 103 objects, the catalogue was subsequently expanded to a total of 110. The objects themselves are a variety of star clusters, nebulae, supernova remnants and galaxies which are identified by their number in the catalogue prefixed by the letter M (See the current observers handbook). Requirements for eligibility:

** the applicant must have observed all 110 Messier objects*
** the applicant must have located each of these objects without the assistance of other observers.*
** The Messier Certificate is restricted to those who have completed the search in the traditional manner - ie without the assistance of computer controlled telescopes*
** the instrument(s) used, the observing site(s) used and the time period over which the observations were made are not critical but for the record, the applicant should list these on the application, and*
** supporting sketches or photographs made by the applicant are not required but the applicant must provide for review his/her observational records.*

Congrats to Mark Kaye and Norm Welbanks for becoming the 14th and 15th centre members to achieve this goal!

RASC Kingston Cosmic & Event Calendar 2003

Created by Kim Hay

Date	*Event*
April 01, Tuesday	New Moon 14:19 est.
April 1-8 Tuesday-Monday	National Dark Sky week see http://members.kingston.net/rasc/lpa.htm
April 06, Sunday	Daylight Saving Time Begins 2:00 edt
April 08, Tuesday	Public Observing- Dusk at Murney Tower, King Street. Sunset at 19:40 pm edt. (weather permitting) contact Tom Dean at 389-2408
April 09, Wednesday	1st Quarter at 19:40 edt.
April 11, Friday	Regular Centre Meeting 19:30 pm Stirling Hall Theatre D. Guest speaker: Dan Falk (author of Universe on a T-shirt) The Quest for the Theory of Everything
April 16, Wednesday	Full Moon at 15:36 edt. Largest Full Moon of 2003
April 22, Tuesday	Lyrid Meteor peak 1:00 edt.
April 23, Wednesday	3rd Quarter Moon at 8:18 edt.
May 01, Thursday	New Moon at 8:15 edt. Farthest Lunar Apogee of 2003 4:00 edt.
May 05, Monday	n-Aquarid Meteor Peak 17:00 edt. International Astronomy Week (through May 11)
May 06, Tuesday	Public Observing- Dusk at Murney Tower, King Street. Sunset at 20:16 edt. (weather permitting) contact Tom Dean at 389-2408
May 07, Wednesday *note change of date*	Regular Centre Meeting 19:30 pm Stirling Hall Theatre D. Guest speaker: Dr. David Levy- "Shakespeare's King Lear and the Eclipses of 1605: A Cosmic Unit of Science and Art "
May 10, Saturday	Astronomy Day Display at Frontenac Mall all day To help out Contact: Don Cooke (Astronomy Day Chair) kavu@ kingston.net
May 15, Thursday	Total Lunar Eclipse –most of the umbral phase visible in all of N. America Full Moon at 23:36 edt.

Est: Eastern Standard Time Edt: Eastern Daylight Time
All Astronomical Information from the Observer's 2003 Calendar, Observers Handbook 2003
Available from your local center or http://www.rasc.ca/estore

Internet Sites of Daily Iinterest:

http://antwrp.gsfc.nasa.gov/apod/	Astronomy Picture of the Day (good to visit every day!)
http://science.nasa.gov/ppod/	Space Station Picture of the Day
http://www.space.com/	Space.com - good news site
http://www.universetoday.com/	Canadian Space News site
http://www.heavens-above.com/	Satellite prediction site good for ISS and Iridium flares
http://www.astrobio.net/	Astrobiology network
http://starryskies.com/	Good news source

Internet Site of Special Interest:

http://www.friendsofnasatv.org/	Lobbying to get NASA TV on Canadian TV
http://www.spaceimaging.com/default.htm	Commercial space-based Earth imagery
http://www.ccrs.nrcan.gc.ca/ccrs/data/calendar/calend_e.html	Calendar with space images of Canada

Submissions from Members

WRITING TABLE PROJECT
by Kevin Kell

Start of the Project:
2003 March 19

Intro
For the last few weeks in our dark-sky observing site just outside of Yarker Ontario, we have been observing from our observing deck which at the moment consists of a 10'x5' wooden deck (pressure treated wood) just off the ground (about 6") with two piers, one functional, one not yet completed.

We bring out charts, logs, and other reference material, and have no place to set them down or use them. I brought the Observing Table out a few times, but it was large, heavy, bulky and I didn't want to leave it outside. So the thought processes started up and I thought .. TV tray. So we tried one of those and it was too small, too low to the ground and to unstable. SO then I thought.. why not a new top surface for leg set #5. Voila! And out of scrap parts as well!

Benefits
to provide a lightweight table surface to write on, lay charts out on, etc.
light and easy to setup and can leave outside without worry

Design
Since this was to fit on top of the existing legs, I measured the width of the inside of the old observing box and got 23 1/4" by 17 1/4"

Parts List
x1 1"x2"x8' pine $1 (ledge)
x1 25x19" x1/4" plywood (top surface)
and x12 #6x3/4" wood screws (top surface to ledge)
carpenters glue, varathane

Supplies needed:
tape measure, tsquare, drill, jigsaw, palm sanders #80, #240 sandpaper, clamp, counter sink drill bit, small 1/16", drill bit, paintbrush

The Assembly

1. Cut the 1/4" plywood to fit the inside measurements of 17 1/4" by 23 1/4" plus the wood ledge size of 3/4" on both sides. So this comes up to: 17.25+.75+.75=18.75" and 23.25+.75+.75=24.75"

2. Cut the two long 1x2" sides to 24.75" Align one side, put glue on the narrow surface, align the plywood edge on top and clamp. Secure with 3 screws.

3. Repeat for the opposite side

4. Measure the inside distance on the short side.. you should get around 17 1/4" Cut two more pieces of 1x2" to this size.

5. Align one side, put glue on the narrow surface, force into place and align the plywood edge on top and clamp. Secure with 3 screws.

6. Repeat for the last side.

7. wipe off excess glue, make sure the screws are counter-sunk

8. Sand down the sharp edges and corners with #80 coarse sandpaper

9. Sand down the top surface with #240 fine sandpaper and do the edges and corners as well.

10. varathane the entire assembly, let dry, repeat. Done!

After the Fact
You may want to place something on the top surface before varathaning, like a starchart, drawing, artwork, etc.

Total Time including two coats: about 2 hours.
Total cost: about nothing... all from existing pieces and spare parts.

http://www.path.queensu.ca/~kell/atm/easel/

DISPLAY EASEL PROJECT
by Kevin Kell

Start of the Project:
2003 March 08
End of project: 2003 March 26

Intro
Any astronomy group that does public events will find a need for display easels. These allow you to display items (posters, artwork, infosheets, etc) at a better height for passerbys to view. In the past we have been able to borrow easels for Astronomy Day from a local high school art department, but it was sometimes touch and go as to availability. So we decided to build some of our own.

This first prototype stands 5' tall with a display area of 2'x2'.
The legs fold back in half to allow for easier transport. How the folding legs hold up over time we will see.
The display area itself is 1/4" plywood painted white so that we can also do solar projection.

Benefits
to provide a lightweight compact display easel to hold foam core mounted material. Commercial easels start around $40
Used to display indoors at meetings, mall displays, outside at daytime solar observing for posters or projection, outside at night to hold signage with optional red lighting (that's another project).

Design
We started with an 8' 1"x2" leg and cut 2' off for the cross braces. This gave us a 6' tall easel. We also had a scrap piece of 2'x2' plywood so that how the size of the display area was determined. The ledge under the display area has a trough (approx 1/2") cut through it to allow material to prop up and stay on the ledge.
Testing the height with posters showed that a 6' tall easel was too tall, so we tested and cut off 1'. This looks good.

Parts List

x3 1"x2"x8' pine $3
x1 1"x5"x2' pine (ledge) $1
x1 24x24" x1/4" plywood (surface) $4
x20 small nails (plywood to 1"x2")
x12 #6x1.25" wood screws (1"x2" assembly) $1
4 hinges 1.5" (or a little smaller.. whatever fits on the wide side of a 1"x2")
(get the set that inclused screws for the hinge) $4
3 clasps (chest locking type clasps) $3
varathane
string approx 12"
one eyehook, 1/2"
white latex paint
white sticky velcro, 4 sets $1
one handle $3

Supplies needed:
tape measure, tsquare, drill, jigsaw, palm sander #120, #240 sandpaper, clamp, counter sink drill bit, small 1/16"
drill bit, paintbrush, carpenters glue,

The Assembly

1. Cut an 8' 1"x2" down to 5' and cut the remainging 3' down to 24"-.75"-.75"= 22.5" (inside mount). Repeat for the 2nd 1"x2"x8'. For the 3rd leg of the tripod, cut down the 1"x2" to 5'1"

2. Take the three legs and cut them in the middle (at 30").

3. Assemble the frame of the easel with two 1"x2"x30" sections on the outside and place the two 1"x2"x22.5" to frame the top and bottom, spaced apart so the outside measurement is 24". pilot the screw holes and countersink them. Glue and screw together so the screws are flush or below the surface level.

4. apply the 2'x2' x 1/4" plywood to the surface. Glue and nail to the frame.

5. take the ledge board and cut notches (approx .75") out so that it fits in between the outside legs. Fit it in place and draw a line across the top surface where the display plywood juts out to mark it. Now we have to cut a trough down the length of the board, approx 1/2" wide, and approx in the centre of the board from one edge to the marked line. I had a friend use a table saw. I'm not sure how else to get this done. Sand down the trough. Glue and screw (3 screws evenly spaced).

6. Attach the third back leg to the centre of the top 1"x2" with a hinge. If possible predrill (pilot hole) the screws that come with the hinges.

7. Sand down the entire easel with medium sandpaper.

8. Sand down the top surface with #240 fine sandpaper and do the edges and corners as well.

9. Apply two coats of white latex paint to the plywood display surface.

10. varathane the entire assembly, let dry, repeat.

11. On each leg sequentially, put the cut part of the leg back up against the section of leg it was cut off from, match it exactly, clamp it down and attach a hinge to join the two sections (on the outside so the side legs swing out not in) (and on the back of the back leg so it also swings back)

12. On the other side of the wood from the hinge, attach clasps with #5x3/4" screws Attach velcro so that when the legs are in the folded position, they stay in that position. Also attach a velcro set to the third back leg so that it remains locked to the back of the ledger board during storage/transport. screw in the eyehook on the backside of the display area, tie one end of the string to it, run it around the rear leg and tie it off at the eyehook. This will limit the back motion of the rear leg.

13. Done!

After the Fact
Total Time including two coats: about 6 hours.
Total cost: about $25

Painting plywood white.. what a lot of time... the next easels will have white coated thin board instead of plywood. Also the folding legs may not last too long due to the small amount of hinge size and a lot of stress on them. So the next couple of easels will be 5' non folding.
The easels are varathane coated so as to stand up better outside in potential evening/nighttime dew.

2003 March 26 added carry handle to top
2003 March 30 - glued down some of the sticky velcro as it was coming loose. As the screws holding the hinges in are not allowing the folding legs to fold completely together. On one leg I tried replacing the #6 x 1/2" screws with #5 x 1/2" screws and glue to see if they allow more folding to occur.

http://www.path.queensu.ca/~kell/atm/easel/

Observing Group Meetings

These are regular meets at the home of members who volunteer their locations and homes to us on or near a new moon. Contact Kevin Fetter if you are interested in hosting a session in 2003.
April: TBA
May: TBA
June: TBA
July: TBA
August: Cancelled due to Starfest
September: Fall'N'Stars 2003

The Messier Certificate Holders

Leo Enright (1982), Gus Johnson (1983), Jim Scotti (1983), Mark Sorensen (1986), Stan Hanna (1990), Steve Manders (1990), Bill Broderick (1993), Dan Rombaugh (1993), Ray Berg (1996), Ken Kingdon (1998), David Pianosi (1998), Doug Angle (1999), Vic Smida (2002), Mark Kaye (2003), Norm Welbanks (2003)

Public Observing Sessions

These are the public observing sessions, normally held at Murney Tower Park on the Kingston waterfront on King & Barrie Sts. On the first Tuesday after a new moon. **Check the Events Calendar.**

Equipment Loan Program

Members in good standing are able to sign out Centre equipment, including:
☆ 25cm (10") f5.5 Douglas Dobsonian Advanced Users
☆20cm (8") f7 FitzGerald Dobsonian Intermediate Users
☆20cm (8") f4.5 Barney Dobsonian Intermediate Users
☆11cm (4.5") f4.3 Bushnell Voyager Starter Users
☆11cm (4.5") f7.9 Orbitor 3500 Equatorial Starter Users

☆ 5 barndoor tracking platforms 1999 February - Starter Users
☆ Collimating Tool 2001 August - All Users
☆ Binocular Set #1 B&L7x50 1999 April - Starter Users
☆ Binocular Set #2 B&L10x50 1999 April- Starter Users
☆ Binocular Set #3 Bushnell 7x50 1999 April - Starter Users
☆ Binoculars Set #4 Stem 7x50 1995 - Starter Users
☆ 19mm Televue Panoptic Eyepiece 2000 March - Intermediate Users
☆ Filter Set - ND13, 4 colour, O3 nebula - all 1.25" 2000 September - Intermediate Users
☆Kodak Ektagraphic 35mm slide projector 2000 November

RASC Kingston Centre Meetings

The Kingston Centre RASC meets once a month on the **2nd Friday of each month at 7:30 pm (19:30) in Stirling Hall** Theatre D on Queen's University Campus **unless noted otherwise.** We have adopted a policy of moving any meeting that is held on a holiday weekend.

2003 Officers and Executive Council
PO Box 1793, Kingston, On K7L 5J6
Infoline & answering machine: 613-377-6029
Email: <rascexec@ cliff.path.queensu.ca>
We also have an email chat list "rascchat". Send your email address to Kevin Kell to be added to the RASCCHAT list.

President: Hank Bartlett

Vice President: Doug Angle

Secretary: Brian Hunter

Treasurer: John Hurley

Librarian: David Maguire

Editor: Kevin Kell

National Council Rep: Peggy Hurley

Regulus is published 6 times per year on paper and 6 times per year in adobe acrobat format files. Both are available on our web site. Views and opinions expressed herein do not necessarily reflect the official position of the Royal Astronomical Society of Canada or its officers and members.
Subscriptions: Members of the Kingston Centre receive Regulus as a benefit of membership. Advertisements are free to members of the Centre. Commercial advertising is $20/quarter, $40/half page, $100/ full page and should be in electronic format.
Contributions are more than welcome. Submitted material will be edited for brevity or clarity.
March Print Run=200

The Newsletter of the Kingston Centre of the Royal Astronomical Society of Canada
Newsletter Submission Info: The deadline is usually the 3rd Friday before regular meetings in odd numbered months. The preferred method is E-MAIL, then disk, lastly paper.
E-mail: <***kell@ cliff.path.queensu.ca***>
Fax: 1-613-533-2907 (with cover page to Kevin Kell) Post: 76 Colebrook Road RR#1, Yarker Ontario K0K 3N0 Canada
ascii or most major word processors (Corel WP8 for windows preferred) via E-mail or cdrom or 3.5" PC floppy disk

Resources Available to Members:
(See bottom of page 10 for passwords)

- **RASC-Kingston Centre Handbook** at: http://U99.N144.queensu.ca/rasc/secure/kingstonmanual20030221.pdf

-**RASC National manual** at http://www.rasc.ca/private/rascmanual2003feb.pdf

- **RASC-Kingston Centre Loan Program** at: http://members.kingston.net/rasc/loan.htm

2003 PUBLICATIONS ORDER FORM

Item	Price per unit (Shipping and taxes included) Regular (Member)	Quantity	$ Total
*Expanding Their Universe 2nd Edition - The Teacher's Companion for Secondary School Astronomy 161 pg 2002 **NEW!**	$30 ($24)		
*Worlds to Discover 1st Edition - Astronomy for Elementary School 154 pg 2000	$15 ($12)		
*Slide Set #1 companion for Expanding Their Universe 40 slides	$75 ($60)		
*Slide Set #2 companion for Expanding Their Universe 40 slides	$75 ($60)		
*Slide Set #3 companion for Worlds to Discover 20 slides	$35 ($28)		
*Students Guide to Careers in Space, 2nd edition 33 pg 1998	$5 ($4)		
*Secondary School **Combo 1:** ETU book, Slide Set #1 OR #2 (Circle choice), Careers in Space	$100 ($80)		
* Secondary School **Combo 2:** ETU book, Slide Sets #1 AND #2 (Circle Choice), Careers in Space	$160 ($125)		
*Elementary School **Combo** : WTD book, Slide Set #3, Careers in Space	$50 ($40)		
Beginner's Observing Guide by Leo Enright	$15		

* Consider a membership in the RASC-KC. A new benefit (2001 March 01) includes a 20% discount on Centre produced material. * 20% discount now extended to members of RASC (other centres included)

News From NASA

NASA Rovers Slated to Examine Two Intriguing Sites on Mars April 11, 2003

Gusev Crater, Mars
The designated landing site for the first Mars Exploration Rover mission is Gusev Crater, seen here in its geological context from NASA Viking images. links box

Mars Exploration Rover site
NASA has chosen two scientifically compelling landing sites for twin robotic rovers to explore on the surface of Mars early next year. The two sites are a giant crater that appears to have once held a lake, and a broad outcropping of a mineral that usually forms in the presence of liquid water.

Each Mars Exploration Rover will examine its landing site for geological evidence of past liquid water activity and past environmental conditions hospitable to life.

"Landing on Mars is very difficult, and it's harder on some parts of the planet than others," said Dr. Ed Weiler, NASA associate administrator for space science in Washington, D.C. "In choosing where to go, we need to balance science value with engineering safety considerations at the landing sites. The sites we have chosen provide such balance."

Gusev Crater, with topographic information and higher-resolution imaging from instruments on the Mars Global Surveyor and Mars Odyssey orbiters.

The first rover, scheduled for launch May 30, will be targeted to land at Gusev Crater, 15 degrees south of Mars' equator. The second, scheduled to launch June 25, will be targeted to land at Meridiani Planum, an area with deposits of an iron oxide mineral (gray hematite) about two degrees south of the equator and halfway around the planet from Gusev.

Which rover is targeted to a specific site is still considered tentative, while further analyses and simulations are conducted. NASA can change the order as late as approximately one month after the launch of the first rover. The first mission will parachute to an airbag-cushioned landing on Jan. 4, 2004, and the second on Jan. 25, 2004.

"A tremendous amount of effort has gone into evaluating possible landing sites in the past two years, to maximize the probability of mission success," said Peter Theisinger, Mars Exploration Rover project manager at NASA's Jet Propulsion Laboratory, Pasadena, Calif.

Images and measurements from two NASA spacecraft orbiting Mars provided scientists and engineers evaluating potential landing sites with details of candidate site topography, composition, rockiness and geological context.

Meridiani Planum, Mars
The designated landing site for the second Mars Exploration Rover mission is Meridiani Planum, seen here in its geological context from NASA Viking images.

"Meridiani and Gusev both show powerful evidence of past liquid water, but in very different ways," said Dr. Steve Squyres, principal investigator for the rovers' science toolkit and a geologist at Cornell University, Ithaca, N.Y. "Meridiani has a chemical signature of past water. Gray hematite is usually, but not always, produced in an environment where there is liquid water. At Gusev, you've got a big hole in the ground with a dry riverbed going right into it. There had to have been a lake in Gusev Crater at some point. They are fabulous sites, and they complement each other because they're so different."

Mars Exploration Rover site selection began with identifying all areas on Mars that fit a set of engineering-driven requirements, said JPL's Dr. Matt Golombek, co-chair of a landing-site steering committee. To qualify, candidate sites had to be near the equator, low in elevation, not too steep, not too rocky and not too dusty, among other criteria; 155 potential sites were studied. A series of public meetings evaluated the merits of potential landing sites. More than 100 Mars scientists participated in the meetings.

"These two landing sites have been studied more than anywhere else on Mars. Both sites have specific scientific hypotheses that can be tested using the instruments on board each rover. It should be a very busy and exciting time after landing for the scientists analyzing the wealth of new data from the ground," said Dr. Cathy Weitz, Mars Exploration Rover program scientist at NASA Headquarters.

"Clearly there is tremendous interest in the science community in what these missions can accomplish and eagerness to help see that the rovers go to the best possible sites," said the National Air and Space Museum's Dr. John Grant, the steering committee's other co-chair.

Meridiani Planum, with topographical information and higher-resolution imaging from instruments on the Mars Global Surveyor and Mars Odyssey orbiters.

Once they reach their landing sites, each rover's prime mission will last at least 90 martian days (92 Earth days). The rovers are solar-powered, and in approximately 90 days, dust accumulating on the solar arrays likely will be diminishing the power supply.

The twin Mars Exploration Rover spacecraft are at NASA's Kennedy Space Center, Fla., in preparation for launch. JPL built the rovers and manages the project for NASA's Office of Space Science, Washington D.C. JPL is a division of the California Institute of Technology in Pasadena.

Information about the Mars Exploration Project is available online at http://mars.jpl.nasa.gov/mer/ .
For more information about NASA on the Internet, visit http://www.nasa.gov/ .

The Canada-France-Hawaii Telescope (CFHT) is one of the oldest facilities on the summit of Mauna-Kea. Once considered a large telescope with its 3.6-meter mirror, CFHT looks small in this time of 8 to 10 meter telescopes. However, a new instrument, MegaPrime, comes into operation this month after 6 years of development and a few months of engineering on the sky, placing CFHT once more on the forefront of optical astronomy in spite of its relatively small mirror size. The first astronomical images from MegaPrime are being released today to the general public.

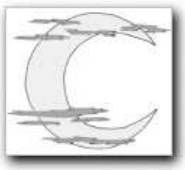
The result of a fruitful collaboration between CFHT and institutes in France and Canada, MegaPrime is a completely new structure installed on top of the telescope, equipped with specially designed optics and a unique made-in-France digital camera of 340 megapixels called MegaCam.

With a field of view of 1 degree by 1 degree, the size of four Full Moons, MegaPrime will allow the astronomers from France, Canada and Hawaii to observe the Earth's neighborhood or remote galaxies using digital images of an unprecedented resolution for such a field of view. It will be possible to look for small objects moving around planets, or the outskirts of the solar system; astronomers will be able to watch the explosions of dying stars in remote galaxies, study the ripples of space due to unseen matter, or witness new and mysterious phenomena yet to be discovered.

Scientific observations have already begun, including the CFHT Legacy Survey, a program of 500 nights spread over 5 years, to be shared by all Canadian and French astronomers.

Opening a new era in astronomical wide-field imaging, MegaPrime will benefit the worldwide astronomical community, as the data will be subsequently released in the CFHT archives.

http://www.cfht.hawaii.edu/News/MegaPrime/



The Cosmos Gets Another Set of Eyes
By WARREN E. LEARY

WASHINGTON, April 7 — NASA is preparing to launch the last of its "Great Observatories," space telescopes that astronomers hope will explore the faint warm glow of the early days of the universe and see through the billowing clouds of interstellar dust that obscure the birthplaces of stars and, possibly, far-off planets.

The telescope, a robot observatory that the space agency calls the Space Infrared Telescope Facility, or Sirtf, is scheduled to be launched on April 18 from the Cape Canaveral Air Force Station on a Boeing Delta II rocket. Sirtf (pronounced SIRT-ef) will travel in an unusual orbit: it trails the Earth from a distance on its mission to map the infrared, or heat, emissions from objects near and far.

Sirtf is the last in a suite of space telescopes that the National Aeronautics and Space Administration proposed in the 1970's. The idea was to place them above the obscuring atmosphere of Earth and examine the heavens across the entire electromagnetic spectrum of light, ranging from gamma rays, X-rays and ultraviolet light on one end to infrared and radio waves on the other.

http://archive.nytimes.com/2003/04/08/science/space/08TELE.html